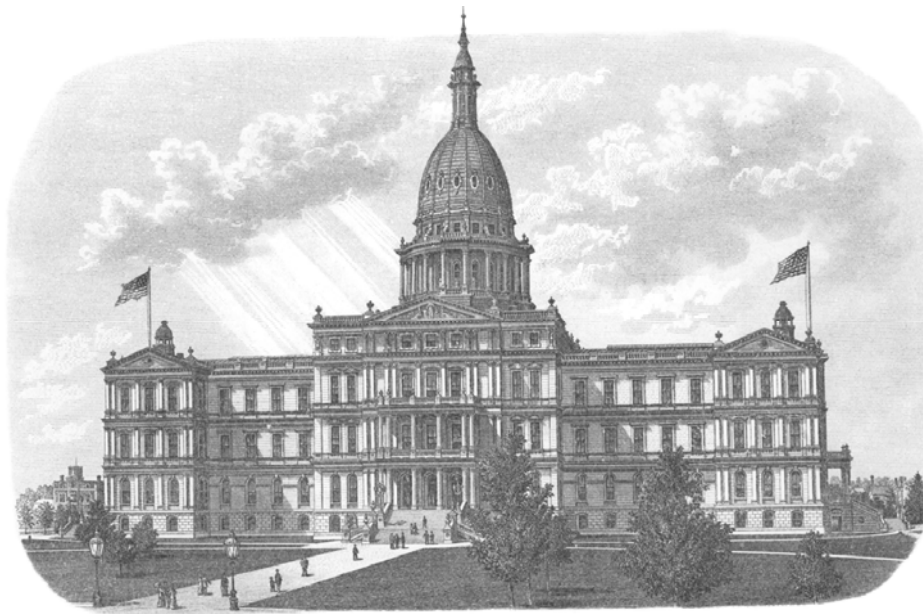


Michigan Register

Issue No. 15 – 2013 (Published September 1, 2013)



GRAPHIC IMAGES IN THE MICHIGAN REGISTER

COVER DRAWING

Michigan State Capitol:

This image, with flags flying to indicate that both chambers of the legislature are in session, may have originated as an etching based on a drawing or a photograph. The artist is unknown. The drawing predates the placement of the statue of Austin T. Blair on the capitol grounds in 1898.

(Michigan State Archives)

PAGE GRAPHICS

Capitol Dome:

The architectural rendering of the Michigan State Capitol's dome is the work of Elijah E. Myers, the building's renowned architect. Myers inked the rendering on linen in late 1871 or early 1872. Myers' fine draftsmanship, the hallmark of his work, is clearly evident.

Because of their size, few architectural renderings of the 19th century have survived. Michigan is fortunate that many of Myers' designs for the Capitol were found in the building's attic in the 1950's. As part of the state's 1987 sesquicentennial celebration, they were conserved and deposited in the Michigan State Archives.

(Michigan State Archives)

East Elevation of the Michigan State Capitol:

When Myers' drawings were discovered in the 1950's, this view of the Capitol – the one most familiar to Michigan citizens – was missing. During the building's recent restoration (1989-1992), this drawing was commissioned to recreate the architect's original rendering of the east (front) elevation.

(Michigan Capitol Committee)

Michigan Register

Published pursuant to § 24.208 of
The Michigan Compiled Laws



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(This issue, published September 1, 2013, contains
documents filed from August 1, 2013 to August 15, 2013)

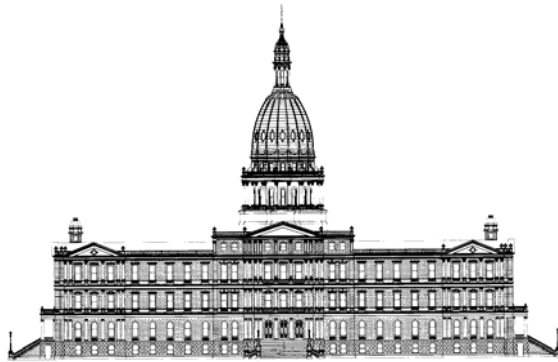
Compiled and Published by the
Office of Regulatory Reinvention

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Steve Arwood, Director, Office of Regulatory Reinvention; **Deidre O’Berry**, Administrative Rules Specialist for Operations and Publications.

Rick Snyder, Governor



Brian Calley, Lieutenant Governor

PREFACE

PUBLICATION AND CONTENTS OF THE MICHIGAN REGISTER

The Office of Regulatory Reform publishes the *Michigan Register*.

While several statutory provisions address the publication and contents of the *Michigan Register*, two are of particular importance.

24.208 Michigan register; publication; cumulative index; contents; public subscription; fee; synopsis of proposed rule or guideline; transmitting copies to office of regulatory reform.

Sec. 8.

(1) The office of regulatory reform shall publish the Michigan register at least once each month. The Michigan register shall contain all of the following:

- (a) Executive orders and executive reorganization orders.
- (b) On a cumulative basis, the numbers and subject matter of the enrolled senate and house bills signed into law by the governor during the calendar year and the corresponding public act numbers.
- (c) On a cumulative basis, the numbers and subject matter of the enrolled senate and house bills vetoed by the governor during the calendar year.
- (d) Proposed administrative rules.
- (e) Notices of public hearings on proposed administrative rules.
- (f) Administrative rules filed with the secretary of state.
- (g) Emergency rules filed with the secretary of state.
- (h) Notice of proposed and adopted agency guidelines.
- (i) Other official information considered necessary or appropriate by the office of regulatory reform.
- (j) Attorney general opinions.
- (k) All of the items listed in section 7(m) after final approval by the certificate of need commission under section 22215 of the public health code, 1978 PA 368, MCL 333.22215.

(2) The office of regulatory reform shall publish a cumulative index for the Michigan register.

(3) The Michigan register shall be available for public subscription at a fee reasonably calculated to cover publication and distribution costs.

(4) If publication of an agency's proposed rule or guideline or an item described in subsection (1)(k) would be unreasonably expensive or lengthy, the office of regulatory reform may publish a brief synopsis of the proposed rule or guideline or item described in subsection (1)(k), including information on how to obtain a complete copy of the proposed rule or guideline or item described in subsection (1)(k) from the agency at no cost.

(5) An agency shall electronically transmit a copy of the proposed rules and notice of public hearing to the office of regulatory reform for publication in the Michigan register.

4.1203 Michigan register fund; creation; administration; expenditures; disposition of money received from sale of Michigan register and amounts paid by state agencies; use of fund; price of Michigan register; availability of text on internet; copyright or other proprietary interest; fee prohibited; definition.

Sec. 203.

- (1) The Michigan register fund is created in the state treasury and shall be administered by the office of regulatory reform. The fund shall be expended only as provided in this section.
- (2) The money received from the sale of the Michigan register, along with those amounts paid by state agencies pursuant to section 57 of the administrative procedures act of 1969, 1969 PA 306, MCL 24.257, shall be deposited with the state treasurer and credited to the Michigan register fund.
- (3) The Michigan register fund shall be used to pay the costs of preparing, printing, and distributing the Michigan register.
- (4) The department of management and budget shall sell copies of the Michigan register at a price determined by the office of regulatory reform not to exceed the cost of preparation, printing, and distribution.
- (5) Notwithstanding section 204, beginning January 1, 2001, the office of regulatory reform shall make the text of the Michigan register available to the public on the internet.
- (6) The information described in subsection (5) that is maintained by the office of regulatory reform shall be made available in the shortest feasible time after the information is available. The information described in subsection (5) that is not maintained by the office of regulatory reform shall be made available in the shortest feasible time after it is made available to the office of regulatory reform.
- (7) Subsection (5) does not alter or relinquish any copyright or other proprietary interest or entitlement of this state relating to any of the information made available under subsection (5).
- (8) The office of regulatory reform shall not charge a fee for providing the Michigan register on the internet as provided in subsection (5).
- (9) As used in this section, "Michigan register" means that term as defined in section 5 of the administrative procedures act of 1969, 1969 PA 306, MCL 24.205.

CITATION TO THE MICHIGAN REGISTER

The *Michigan Register* is cited by year and issue number. For example, 2001 MR 1 refers to the year of issue (2001) and the issue number (1).

CLOSING DATES AND PUBLICATION SCHEDULE

The deadlines for submitting documents to the Office of Regulatory Reinvention for publication in the *Michigan Register* are the first and fifteenth days of each calendar month, unless the submission day falls on a Saturday, Sunday, or legal holiday, in which event the deadline is extended to include the next day which is not a Saturday, Sunday, or legal holiday. Documents filed or received after 5:00 p.m. on the closing date of a filing period will appear in the succeeding issue of the *Michigan Register*.

The Office of Regulatory Reinvention is not responsible for the editing and proofreading of documents submitted for publication.

Documents submitted for publication should be delivered or mailed in an electronic format to the following address: MICHIGAN REGISTER, Office of Regulatory Reinvention, Romney Building – Fourth Floor, 111 S. Capitol Avenue, Lansing, MI 48933

RELATIONSHIP TO THE MICHIGAN ADMINISTRATIVE CODE

The *Michigan Administrative Code* (1979 edition), which contains all permanent administrative rules in effect as of December 1979, was, during the period 1980-83, updated each calendar quarter with the publication of a paperback supplement. An annual supplement contained those permanent rules, which had appeared in the 4 quarterly supplements covering that year.

Quarterly supplements to the Code were discontinued in January 1984, and replaced by the monthly publication of permanent rules and emergency rules in the *Michigan Register*. Annual supplements have included the full text of those permanent rules that appear in the twelve monthly issues of the *Register* during a given calendar year. Emergency rules published in an issue of the *Register* are noted in the annual supplement to the Code.

SUBSCRIPTIONS AND DISTRIBUTION

The *Michigan Register*, a publication of the State of Michigan, is available for public subscription at a cost of \$400.00 per year. Submit subscription requests to: Office of Regulatory Reinvention, Romney Building – Fourth Floor, 111 S. Capitol Avenue, Lansing, MI 48933. Checks Payable: State of Michigan. Any questions should be directed to the Office of Regulatory Reinvention (517) 335-8658.

INTERNET ACCESS

The *Michigan Register* can be viewed free of charge on the Internet web site of the Office of Regulatory Reinvention: www.michigan.gov/orr.

Issue 2000-3 and all subsequent editions of the *Michigan Register* can be viewed on the Office of Regulatory Reinvention Internet web site. The electronic version of the *Register* can be navigated using the blue highlighted links found in the Contents section. Clicking on a highlighted title will take the reader to related text, clicking on a highlighted header above the text will return the reader to the Contents section.

Steve Arwood, Director
Office of Regulatory Reinvention

2013 PUBLICATION SCHEDULE

| Issue No. | Closing Date for Filing or Submission Of Documents (5 p.m.) | Publication Date |
|--------------|---|---------------------|
| 1 | January 15, 2013 | February 1, 2013 |
| 2 | February 1, 2013 | February 15, 2013 |
| 3 | February 15, 2013 | March 1, 2013 |
| 4 | March 1, 2013 | March 15, 2013 |
| 5 | March 15, 2013 | April 1, 2013 |
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| 7 | April 15, 2013 | May 1, 2013 |
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| 20 | November 1, 2013 | November 15, 2013 |
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| 22 | December 1, 2013 | December 15, 2013 |
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**PROPOSED ADMINISTRATIVE RULES,
NOTICES OF PUBLIC HEARINGS**

MCL 24.242(3) states in part:

“... the agency shall submit a copy of the notice of public hearing to the Office of Regulatory Reform for publication in the Michigan register. An agency's notice shall be published in the Michigan register before the public hearing and the agency shall file a copy of the notice of public hearing with the Office of Regulatory Reform.”

MCL 24.208 states in part:

“Sec. 8. (1) The Office of Regulatory Reform shall publish the Michigan register at least once each month. The Michigan register shall contain all of the following:

* * *

(d) Proposed administrative rules.

(e) Notices of public hearings on proposed administrative rules.”

PROPOSED ADMINISTRATIVE RULES

**DEPARTMENT OF ~~CONSUMER AND INDUSTRY SERVICES~~ LICENSING AND
REGULATORY AFFAIRS**

~~BUREAU OF SAFETY AND REGULATION~~ DIRECTOR'S OFFICE

OCCUPATIONAL HEALTH STANDARDS ~~COMMISSION~~

Proposed Draft August 19, 2013

Filed with the Secretary of State on

These rules become effective immediately upon filing with the Secretary of State unless adopted under section 33, 44, or 45a(6) of 1969 PA 306. Rules adopted under these sections become effective 7 days after filing with the Secretary of State.

(By authority conferred on the director of the department of **licensing and regulatory affairs** ~~consumer and industry services~~ by sections **14 and 24** of 1974 PA 154, and **Executive Reorganization Order Nos. 1996-2, 2003-1, 2008-4, and 2011-4, MCL 445.2001, 445.2011, 445.2025, and 445.2030 MCL 408.1024, and Executive Reorganization Order Nos. 1996-1 and 1996-2, MCL 330.3101 and 445.2001**)

R 325.52102, R 325.52103, R 325.52104, R 325.52109, R 325.52113, R 325.52114, R 325.52116, R 325.52117, R 325.52118, R 325.52123, R 325.52124, R 325.52125, R 325.52127, R 325.52129, R 325.52130, R 325.52131, and R 325.52135 of the Michigan Administrative Code are amended, R 325.52102a is added, and R 325.52136 and R 325.52137 of Code are rescinded, as follows:

PART 432. HAZARDOUS WASTE OPERATIONS AND EMERGENCY RESPONSE

R 325.52102 Application.

Rule 2. (1) These rules apply to all of the following operations when employees are exposed, or have a reasonable possibility of exposure, to safety or health hazards:

(a) Cleanup operations which are required by a governmental body, whether a federal, state, local, or other body, which involve hazardous substances, and which are conducted at uncontrolled hazardous waste sites. Such sites include any of the following:

(i) Sites on the environmental protection agency's (EPA) national priority site list (NPL).

(ii) Sites on state priority site lists.

(iii) Sites recommended for the EPA NPL.

(iv) Sites which are government-identified and are undergoing initial investigation conducted before the presence or absence of hazardous substances has been determined.

(b) Corrective actions that involve cleanup operations at sites covered by the ~~provisions of the resource conservation and recovery act of 1976 (RCRA), as amended, 42 U.S.C. §6901 et seq.~~ **“Congressional findings.”**

(c) Voluntary cleanup operations at sites recognized by federal, state, local, or other governmental bodies as uncontrolled hazardous waste sites.

(d) Operations which involve hazardous wastes and which are conducted at treatment, storage, and disposal (TSD) facilities regulated by ~~the provisions of 40 C.F.R. parts 264 and 265 pursuant to RCRA, by agencies under agreement with EPA to implement RCRA regulations, or by the provisions of sections 5, 11, 13, 13a, 15a, 19, 22a, 30, 30a, 32a, 32b, and 32c~~ **1978 PA 641, MCL of Act No. 641 of the Public Acts of 1978, as amended, being §§299.405, 299.411, 299.413, 299.413a, 299.415a, 299.419, 299.422a, 299.430, 299.430a, 299.432a, 299.432b, and 299.432c. of the Michigan Compiled Laws.**

(e) An emergency response operation that involves the release of, or a substantial threat of the release of, hazardous substances, without regard to the location of the hazard.

(2) All of the requirements of the Michigan occupational health and safety act (MIOSHA) occupational health rules and occupational safety rules for both general industry and construction apply, pursuant to their terms, to operations specified in subrule (1) of this rule, whether mentioned in these rules or not. Where there is a conflict or overlap between these and other rules, the requirement that is more protective of employee health and safety shall apply. ~~without regard to O.H. rule 1106(3)(a).~~

(3) All of these rules, except for R 325.52129 to R 325.52135, apply to hazardous substance cleanup operations covered by ~~the provisions of~~ subrule (1)(a), (b), and (c) of this rule.

(4) ~~Only the provisions of R 325.52129~~ **applies apply** to operations at TSD facilities covered by ~~the provisions of~~ subrule (1)(d) of this rule. All of the following ~~provisions~~ apply to this subrule:

(a) ~~All of the provisions of R 325.52129~~ **applies apply** to any TSD operation which is regulated by ~~the provisions of 40 C.F.R. parts 264 and 265 or by Michigan law authorized under RCRA and which is required to have a permit o interim status from EPA pursuant to the provisions of 40 C.F.R. §270.1 or from a Michigan agency pursuant to the provisions of RCRA.~~

(b) Employers who are not required to have a permit or interim status because they are conditionally exempt small quantity generators under ~~the provisions of 40 C.F.R. §261.5 or are generators who qualify under the provisions of 40 C.F.R. §262.34 for exemptions from regulation under the provision of 40 C.F.R. parts 264, 265, and 270 need not comply with the provisions of~~ subrules R 325.52129 (1) to (8). Excepted employers who are required by the EPA or a Michigan agency to have their employees engage in emergency response or who direct their employees to engage in emergency response shall comply with ~~the provisions of~~ R 325.52129(9). Excepted employers who are not required to have employees engage in emergency response, who direct their employees to evacuate in the case of emergencies, and who meet the requirements of R 325.52129 (9)(a) and (b) are exempt from the rest of ~~the provisions of~~ R 325.52129.

(c) If an area is used primarily for treatment, storage, or disposal, any emergency response operation in that area shall be in compliance with ~~the requirements of~~ R 325.52129(9). In other areas that are not used primarily for treatment, storage, or disposal, any emergency response operation shall be in compliance with ~~the requirements of~~ R 325.52130 to R 325.52135. Compliance with ~~the requirements of~~ R 325.52130 to R 325.52135 shall be deemed to be in compliance with ~~the requirements of~~ R 325.52129(9).

(5) An emergency response operation which involves the release of, or a substantial threat of a release of, hazardous substances and which is not covered by subrule (1)(a) to (d) of this rule shall be in compliance with ~~only the requirements of~~ R 325.52130 to R 325.52135.

R 325.52102a Adopted and referenced standards.

Rule 2a. (1) “NIOSH Recommendations for Occupational Health Standards,” 1986 edition, is adopted by reference in these rules. This standard is available from the National Institute for Occupational Safety and Health, Publications Dissemination Division, Cincinnati, Ohio 45226, or via the internet at website: www.cdc.gov/niosh, at no cost as of the time of adoption of these rules.

(2) “Threshold Limit Values and Biological Exposure Indices for 1990-1991,” 1990 edition, is adopted by reference in these rules. The ACGIH publication is available from the American Conference of Governmental Industrial Hygienists, 1330 Kemper Meadow Drive, Cincinnati, Ohio 45240-4148, or via the internet at website: www.acgih.org, at a cost at the time of adoption of these rules is \$25.00.

(3) The following regulations from the Code of Federal Regulations are adopted by reference in these rules. Copies of these regulations are available from the U.S. Government Printing Office, via the internet at website www.gpoaccess.gov, at no charge as of the time of adoption of these rules.

(a) 40 C.F.R. §261.3, Identification and Listing of Hazardous Waste, “Definition of Hazardous Waste.”

(b) 42 C.F.R. Part 84 “Approval of Respiratory Protective Devices.”

(c) 49 C.F.R. §171.8, Definitions and Abbreviations “General Information, Regulations, and Definitions.”

(d) 49 C.F.R. §172.101, General Information, Regulations, and Definitions “Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, Training Requirements, and Security Plans.”

(e) 49 C.F.R. Part 173, Shippers – General Requirements for Shipments and Packagings “Pipeline and Hazardous Materials Safety Administration, Department of Transportation.”

(f) 49 C.F.R. Part 178, Specifications for Packagings “Pipeline and Hazardous Materials Safety Administration, Department of Transportation.”

(g) 42 U.S.C. §9601, “Comprehensive Environmental Response Compensation and Liability Act (CERCLA).”

(4) The standards adopted in subrules (1) to (3) of this rule are also available for inspection at the Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143.

(5) Copies of the standards adopted in subrules (1) to (3) of this rule may be obtained from the publisher or may also be obtained from the Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143, at the cost charged in this rule, plus \$20.00 for shipping and handling.

(6) The following Michigan occupational safety and health standards are referenced in these rules. Up to 5 copies of these standards may be obtained at no charge from the Michigan Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143 or via the internet at website:

www.michigan.gov/mioshastandards. For quantities greater than 5, the cost, as of the time of adoption of these rules, is 4 cents per page.

(a) Construction Safety Standard Part 18 “Fire Protection and Prevention,” R 408.41801 to R 408.41884.

(b) General Industry Safety Standard Part 6 “Fire Exits,” R 408.10601 to R 408.10697.

(c) General Industry Safety Standard Part 73 “Fire Brigades,” R 408.17301 to R 408.17320.

(d) Occupational Health Standard Part 301 “Air Contaminants,” R 325.51101 to 325.51108.

(e) Occupational Health Standard Part 380 “Occupational Noise Exposure,” R 325.60101 to 325.60131.

(f) Occupational Health Standard Part 381 “Ionizing Radiation,” R 325.60601a to 325.60618.

(g) Occupational Health Standard Part 430 “Hazard Communication,” R 325.77001 to 325.77003.

(h) Occupational Health Standard Part 451 “Respiratory Protection,” R 325.60051 to 325.60052.

(i) Occupational Health Standard Part 470 “Employee Medical Records and Trade Secrets,” R 325.3451 to R 325.3476.

(j) Occupational Health Standard Part 474 “Sanitation,” R 325.47401 to R 325.47427.

(k) Occupational Health Standard Part 490 “Permit-Required Confined Spaces,” R 325.63001 to R 325.63049.

(l) Occupational Health Standard Part 529 “Welding, Cutting and Brazing,” R 325.52901 to R 325.52908.

(7) Appendices A, B, C, and D to these rules are informational only and are not intended to create any additional obligations or requirements not otherwise imposed or to detract from any established obligations or requirements.

R 325.52103 Definitions.

Rule 3.~~(4)~~ As used in these rules:

(1)~~(a)~~ “Buddy system” means a system of organizing employees into work groups in such a manner that each employee of the work group is designated to be observed by a least 1 other employee in the work group. The purpose of the buddy system is to provide rapid assistance to employees in the event of an emergency.

(2)~~(b)~~ “Cleanup operation” means an operation where hazardous substances are removed, contained, incinerated, neutralized, stabilized, cleared up, or in any other manner processed or handled with the ultimate goal of making the site safer for people and the environment.

(3)~~(c)~~ “Decontamination” means the removal of hazardous substances from employees and their equipment to the extent necessary to prevent the occurrence of foreseeable adverse health effects.

(4)~~(d)~~ “Emergency response” or “responding to emergencies” means a response effort by employees from outside the immediate release area or by other designated responders, for example, mutual-aid groups or local fire departments, to an occurrence which results, or is likely to result, in an uncontrolled release of a hazardous substance. Responses to incidental releases of hazardous substances where the substance can be absorbed, neutralized, or otherwise controlled at the time of release by employees in the immediate release area or by maintenance personnel are not considered to be emergency responses within the scope of these rules. Responses to releases of hazardous substances where there is no potential safety or health hazards, such as, fire, explosion, or chemical exposure, are not considered to be emergency responses.

(5)~~(e)~~ “Facility” means any of the following:

(a)~~(i)~~ A building.

(b)~~(ii)~~ A structure.

(c)~~(iii)~~ An installation.

(d)~~(iv)~~ Equipment.

(e)~~(v)~~ A pipe or pipeline, including a pipe into a sewer or publicly owned treatment works.

(f)~~(vi)~~ A well.

(g)~~(vii)~~ A pit.

(h)~~(viii)~~ A pond.

(i)~~(ix)~~ A lagoon.

(j)~~(x)~~ An impoundment.

(k)~~(xi)~~ A ditch.

(l)~~(xii)~~ A storage container.

(m)~~(xiii)~~ A motor vehicle.

(n)~~(xiv)~~ Rolling stock.

(o)~~(xv)~~ Aircraft.

~~(p)(xvi)~~ A site or area where a hazardous substance has been deposited, stored, disposed of, placed, or otherwise caused to be located.

~~(q)(xvii)~~ Facility does not mean any consumer product in consumer use or any waterborne vessel.

~~(6)(f)~~ “Hazardous material response (HAZMAT) team” means an organized group of employees which is designated by the employer and which is expected to perform work to handle and control actual or potential leaks or spills of hazardous substances that may require coming into close proximity to the substance. The team members perform responses to releases or potential releases of hazardous substances to control or stabilize a release or potential release. A HAZMAT team is not a fire brigade nor is a typical fire brigade a HAZMAT team. A HAZMAT team, however, may be a separate component of a fire brigade or fire department.

~~(7)(g)~~ “Hazardous substance” means any of the following substances, exposure to which results or may result in adverse effects on the health and safety of employees:

~~(a)(i)~~ Any substance defined under section ~~103(14)~~ ~~101(14)~~ of the Comprehensive Environmental Response Compensation and Liability Act (**CERCLA**) 42 U.S.C. §9601, ~~(14)~~ **which is adopted in R 325.52102a.**

~~(b)(ii)~~ Any biological agent and other disease-causing agent which, after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any person, either directly from the environment or indirectly by ingestion through food chains, will, or may reasonably be anticipated to, cause any of the following in such persons or their offspring:

~~(i)(A)~~ Death.

~~(ii)(B)~~ Disease.

~~(iii)(C)~~ Behavioral abnormalities.

~~(iv)(D)~~ Cancer.

~~(v)(E)~~ Genetic mutation.

~~(vi)(F)~~ Physiological malfunctions, including malfunctions in reproduction.

~~(vii)(G)~~ Physical deformations in such persons or their offspring.

~~(c)(iii)~~ Any substance that is listed by the United States Department of Transportation as a hazardous material under the provisions of 49 C.F.R. §172.101 **“Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, Training Requirements, and Security Plans,”** and appendices, which are adopted ~~herein by reference in R 325.52102a.~~ **The provisions of 49 C.F.R. §172.101 and appendices are available from the Superintendent of Documents, United States Government Printing Office, Washington, D.C. 20402, at a cost at the time of adoption of these rules of \$27.00, or from the Michigan Department of Consumer and Industry Services, Standards Division, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan 48909, at a cost at the time of adoption of these rules of \$10.00.**

~~(d)(iv)~~ Hazardous waste.

~~(8)(h)~~ “Hazardous waste” means either of the following

~~(a)(i)~~ A waste or combination of wastes as defined in the provisions of 40 C.F.R. §261.3 **“Definition of Hazardous Waste,”** which are adopted ~~herein by reference in R 325.52102a.~~ **The provisions of 40 C.F.R. 261.3 are available from the Superintendent of Documents, United States Government Printing Office, Washington, D.C. 20402, at a cost at the time of adoption of these rules of \$22.00, or from the Michigan Department of Consumer and Industry Services, Standards Division, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan 48909, at a cost at the time of adoption of these rules of \$2.00.**

~~(b)(ii)~~ Those substances defined as hazardous waste in the provisions of 49 C.F.R. §171.8 **“General Information, Regulations, and Definitions.”** which are adopted ~~herein by reference in R 325.52102a.~~ **The provisions of 49 C.F.R. §171.8 are available from the Superintendent of Documents, United States Government Printing Office, Washington, D.C. 20402, at a cost at the time of adoption of these rules of**

~~\$27.00, or from the Michigan Department of Consumer and Industry Services, Standards Division, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan 48909, at a cost at the time of adoption of these rules of \$1.00.~~

~~(9)(i)~~ “Hazardous waste operation” means any operation to which these rules apply according with ~~the provisions of R 325.52102.~~

~~(10)(j)~~ “Hazardous waste site” or “site” means any facility or location at which hazardous waste operations take place and to which these rules apply.

~~(11)(k)~~ “Health hazard” means a **chemical or a pathogen where acute or chronic health effects may occur in exposed employees. It also includes stress due to temperature extremes. The term health hazards includes chemicals that are classified in accordance with the Occupational Health Standard Part 430 “Hazard Communication,” which is referenced in R 325.52102a, as posing one of the following hazardous effects:**

- (a) Acute toxicity, any route of exposure.
- (b) Skin corrosion or irritation.
- (c) Serious eye damage or eye irritation.
- (d) Respiratory or skin sensitization.
- (e) Germ cell mutagenicity.
- (f) Carcinogenicity.
- (g) Reproductive toxicity.
- (h) Specific target organ toxicity, single or repeated exposure.
- (i) Aspiration toxicity or simple asphyxiant.

Note: See Occupational Health Standard Part 430 “Hazard Communication,” which is referenced in R 325.52102a, Appendix A “Health Hazard Criteria, Mandatory,” for the criteria for determining if a chemical is classified as a health hazard. ~~stress due to a physical condition, chemical exposure, or a pathogen for which there is statistically significant evidence, based on at least 1 study conducted in accordance with established scientific principles, that acute or chronic health effects may occur in exposed employees. The term “health hazard” includes all of the following:~~

- ~~(i) Chemicals which are carcinogens.~~
- ~~(ii) Toxic or highly toxic agents.~~
- ~~(iii) Reproductive toxins.~~
- ~~(iv) Irritants.~~
- ~~(v) Corrosives.~~
- ~~(vi) Sensitizers.~~
- ~~(vii) Hepatotoxins.~~
- ~~(viii) Nephrotoxins.~~
- ~~(ix) Neurotoxins.~~
- ~~(x) Agents which act on the hematopoietic system.~~
- ~~(xi) Agents which damage the lungs, skin, eyes, or mucous membranes.~~
- ~~(xii) High or low body temperatures.~~
- ~~(xiii) High noise levels.~~
- ~~(xiv) Ionizing or nonionizing radiation.~~

~~Further definition of terms used in this subdivision can be found in appendix A to 29 C.F.R. §1910.1200, which was incorporated by reference in section 14a of Act No. 154 of the Public Acts of 1974, as amended, being §408.1014a of the Michigan Compiled Laws.~~

~~(12)(l)~~ “IDLH” or “immediately dangerous to life or health” means an atmospheric concentration of any toxic, corrosive, or asphyxiant substance that poses an immediate threat to life, would cause

irreversible or delayed adverse health effects, or would interfere with an person's ability to escape from a dangerous atmosphere.

~~(13)(m)~~ “Oxygen deficiency” means that concentration of oxygen, by volume, in the atmosphere below which air supplying respiratory protection shall be provided. An oxygen deficiency exists in atmospheres where the percentage of oxygen, by volume, is less than 19.5%.

~~(14)(n)~~ “Permissible exposure limit” or “PEL” means the inhalation or dermal permissible exposure limits of chemical substances specified or referenced in the air contaminants standard tables ~~G-1-A, G-2, and G-3~~ of **Occupational Health Standard Part 301 “Air Contaminants for General Industry”** **which is referenced in R 325.52102a.** ~~R 325.51108.~~

~~(15)(o)~~ “Postemergency response” means that portion of an emergency response which is performed after the immediate threat of a release has been stabilized or eliminated and cleanup of the site has begun. If postemergency response is performed by an employer's own employees as a continuation of initial emergency response, it is considered to be part of the initial response and not postemergency response. However, if a group of an employer's own employees that is separate from the group that provides the initial response performs the cleanup operation, the separate group of employees is considered to be performing postemergency response and is subject to ~~the provisions of~~ R 325.52135.

~~(16)(p)~~ “Published exposure level” means the exposure limits specified in the publication entitled “NIOSH Recommendations for Occupational Health Standards,” 1986 **edition**, which are adopted in **R 325.52102a**, ~~these rules by reference~~, or, if no limit is specified, the threshold limit values published by the American Conference of Governmental Industrial Hygienist (ACGIH) in the publication entitled “Threshold Limit Values and Biological Exposure Indices for 1990-1991,” 1990 **edition**, which are adopted in **R 325.52102a**. ~~these rules by reference. These 2 documents may be inspected at the Lansing office of the department. The NIOSH publication may be obtained from the National Institute for Occupational Safety and Health, Publications Dissemination Division, Cincinnati, Ohio 45226, or from the Michigan Department of Consumer and Industry Services, Standards Division, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan 48909, at no cost. The ACGIH publication is available from the American Conference of Governmental Industrial Hygienist, 6500 Glenway Avenue, Bldg. D-7, Cincinnati, Ohio 45211-4438, or from the Michigan Department of Consumer and Industry Services, Standards Division, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan 48909. The cost at the time of adoption of these rules is \$6.00.~~

~~(17)(q)~~ “Qualified person” means a person who has specific training, knowledge, and experience in the area for which the person has responsibility and the authority to control operations.

~~(18)(r)~~ “Site safety and health supervisor” or “official” means an individual who is located on a hazardous waste site, who is responsible to the employer, and who has the authority and knowledge necessary to implement the site safety and health plan and verify compliance with applicable safety and health requirements.

~~(19)(s)~~ “Small quantity generator” means a generator of hazardous waste who, in any calendar month, generates not more than 1,000 kilograms (2,205 pounds) of hazardous waste.

~~(20)(t)~~ “Uncontrolled hazardous waste site” means an area where an accumulation of hazardous wastes creates a threat to the health and safety of individuals or the environment, or both. Such sites can be on public lands or on privately owned property. Normal operations at TSD sites are not included in this definition.

R 325.52104 Safety and health program.

Rule 4. (1) An employer shall develop and implement a written safety and health program for its employees who are involved in hazardous waste operations. The program shall be designed to identify,

evaluate, and control safety and health hazards and provide for emergency responses for hazardous waste operations.

(2) A safety and health program that is developed and implemented to meet other federal, state, or local regulations is acceptable to meet the requirements of subrule (1) of this rule if the program includes, or is modified to include, the topics required by this rule.

(3) The written safety and health program shall include all of the following topics:

(a) An organizational structure.

(b) A comprehensive work plan.

(c) A site-specific safety and health plan which need not repeat the standard operating procedures required by subdivision (f) of this subrule.

(d) The safety and health training program.

(e) The medical surveillance program.

(f) The employer's standard operating procedures for safety and health.

(g) Any necessary interface between the general program and site-specific activities.

(4) All of the following provisions apply to the organizational structure section of the program:

(a) The organizational structure section shall establish the specific chain of command and specify the overall responsibilities of supervisors and employees. It shall provide for all of the following:

(i) A general supervisor who has the responsibility and authority to direct all hazardous waste operations.

(ii) A site safety and health supervisor who has the responsibility and authority to develop and implement the site safety and health plan and verify compliance.

(iii) All other personnel needed for hazardous waste site operations and emergency response and their general functions and responsibilities.

(iv) The lines of authority, responsibility, and communication.

(b) The organizational structure section shall be reviewed and updated as necessary to reflect the current status of waste site operations.

(c) The original organizational structure section and any changes shall be made available to all affected employees.

(5) The comprehensive work plan section of the program shall address the tasks and objectives of site operations and the logistics and resources required to accomplish those tasks and objectives and shall provide for all of the following:

(a) Address anticipated cleanup activities, as well as normal operating procedures.

(b) Define work tasks and objectives and identify the methods for accomplishing those tasks and objectives.

(c) Establish personnel requirements for implementing the plan.

(d) Provide for the implementation of the training required in ~~the provisions of~~ R 325.52109 to R 325.52112.

(e) Provide for the implementation of the required informational programs required in ~~the provisions of~~ R 325.52120.

(f) Provide for the implementation of the medical surveillance program described in ~~the provisions of~~ R 325.52113 to R 325.52116.

(6) The site-specific safety and health plan section of the safety and health program shall be available on the site for inspection by employees, their designated representatives, and Michigan occupational safety and health program (MIOSHA) personnel. The plan section shall address the safety and health hazards of each phase of site operation and include the requirements and procedures for employee protection. The site-specific safety and health plan shall provide for all of the following:

~~(a) The names of key personnel and alternates who are responsible for site safety and health, including a site safety and health supervisor.~~

~~(a)(b)~~ A safety and health risk or hazard analysis for each site task and operation found in the work plan.

~~(b)(e)~~ Employee training assignments to assure compliance with ~~the provisions of~~ R 325.52109 to R 325.52112.

~~(c)(d)~~ Personal protective equipment to be used by employees for each of the site tasks and operations being conducted as required by the personal protective equipment program in ~~the provisions of~~ R 325.52118.

~~(d)(e)~~ Medical surveillance requirements in accordance with the program in ~~the provisions of~~ R 325.52113 to R 325.52116.

~~(e)(f)~~ The frequency and types of air monitoring and personal monitoring and the environmental sampling techniques and instrumentation to be used, including the methods and schedule of maintenance and calibration of monitoring and sampling equipment.

~~(f)(g)~~ Site control procedures in accordance with the site control program required in ~~the provisions of~~ R 325.52108.

~~(g)(h)~~ Decontamination procedures in accordance with ~~the provisions of~~ R 325.52124.

~~(h)(i)~~ An emergency response plan that meets the requirements of R 325.52125 for safe and effective response to emergencies, including the necessary personal protective equipment and other equipment.

~~(i)(j)~~ Confined space entry procedures.

~~(j)(k)~~ A spill containment program which meets the requirements of R 325.52121(2)(g) shall be included where appropriate.

~~(k)(l)~~ Preentry briefings to be held before initiating any site activity and at such other times as necessary to ensure that employees are apprised of the site safety and health plan and that this plan is being followed. The information and data from site characterization and analysis work required pursuant to ~~the provisions of~~ R 325.52107 shall be used to prepare and update the site safety and health plan and preentry briefings.

~~(l)(m)~~ Inspections conducted by the site safety and health supervisor, or designee, as necessary to determine the effectiveness of the site safety and health plan. Any deficiencies in the effectiveness of the site safety and health plan shall be corrected by the employer.

(7) The written safety and health program required by this rule shall be made available to employees and their representatives, to contractors and subcontractors involved in the hazardous waste operation, and to Michigan occupational safety and health program (MIOSHA) personnel.

R 325.52109 Training generally.

Rule 9. (1) All employees, supervisors, and management personnel who work at a hazardous waste site where cleanup operations are underway shall be trained and have supervised on-the-job field experience as required by this rule, R 325.52110, and R 325.52111 before they are permitted to engage in hazardous waste operations that could expose them to hazardous substances or safety or health hazards. All personnel shall also receive refresher training as required pursuant to ~~the provisions of~~ R 325.52112.

(2) Employees and supervisors shall not ~~be permitted to~~ participate in field activities until they have been trained at the level required by their job functions and responsibilities.

(3) Training shall cover all of the following topics:

(a) The names of personnel and alternates who are responsible for site safety and health.

(b) Safety, health, and other hazards present on the site.

(c) Use of personal protective equipment.

(d) Work practices which will minimize the risks of hazards.

(e) The safe use of engineering controls and equipment on the site.

(f) Medical surveillance requirements, including the recognition of symptoms and signs which might indicate overexposure to hazards.

(g) The contents of the site-specific safety and health plan required pursuant to ~~the provisions of R 325.52104(6)(g) to (j). (h) to (k).~~

(4) Employees who may respond to emergency situations at hazardous waste sites shall be trained in the proper response procedures for, and protection from, hazardous exposures.

R 325.52113 Medical surveillance.

Rule 13. (1) Employers that are engaged in the operations described in R 325.52102(1)(a) to (c) and employers with a hazardous material response (HAZMAT) team shall establish a medical surveillance program, in accordance with ~~the provisions of this rule,~~ for all of the following employees:

(a) All employees who are or may be exposed, for 30 days or more a year, to hazardous substances or health hazards at or above permissible exposure limits (PEL) or, if there is no PEL, above the published exposure levels for these substances without regard to the use of respirators.

(b) All employees who wear a respirator for 30 or more days a year or as required by **Occupational Health Standard Part 451 “Respiratory Protection,” which is referenced in R 325.52102a.** ~~the respiratory protection standard, R 325.60051 et seq. of the Michigan Administrative Code.~~

(c) All employees who are injured, become ill, or develop signs or symptoms due to the possible overexposure to hazardous substances or health hazards from an emergency response or hazardous waste operation.

(d) All employees on a HAZMAT team.

(2) Medical examinations and consultations shall be made available by the employer at no cost to the employee, without a loss of pay, and at a reasonable time and place for each employee covered by ~~the provisions of subrule (1) of this rule~~ **under pursuant to the following, provisions,** as applicable:

(a) For employees who are covered under ~~the provisions of~~ subrule (1)(a),(b), and (d) of this rule, the following schedule applies:

(i) Before assignment to hazardous waste or emergency response operations.

(ii) At least once every 12 months for each covered employee, unless the responsible physician believes a longer interval is appropriate. The interval shall not be more than 2 years.

(iii) At termination of employment or reassignment to an area where the employee will not be covered, unless the employee has had an examination within the last 6 months.

(iv) As soon as possible upon notification by an employee that the employee has developed signs or symptoms indicating possible overexposure to hazardous substances or health hazards or that the employee has been injured or exposed above the permissible exposure limits or published exposure levels in an emergency situation.

(v) At more frequent times if the examining physician determines that an increased frequency of examination is medically necessary.

(b) For employees who are covered under ~~the provisions of~~ subrule (1)(c) of this rule and for all employees, including those of employees who are covered by ~~the provisions of~~ R 325.52102(1)(e), who may have been injured, received a health impairment, developed signs or symptoms which may have resulted from exposure to hazardous substances resulting from an emergency incident, or been exposed during an emergency incident to hazardous substances at concentrations above the permissible exposure limits or the published exposure levels without the necessary personal protective equipment being used, the following schedule applies:

(i) As soon as possible after the emergency incident or development of signs or symptoms.

(ii) At additional times if the examining physician determines that follow-up examinations or consultations are medically necessary.

R 325.52114 Medical examinations, consultations, and procedures to be performed by or under supervision of physician; content of examinations and consultations; copies of rules and information to be provided by employer.

Rule 14 (1) All medical examinations, consultations, and procedures shall be performed by or under the supervision of a licensed physician, preferably a physician who is knowledgeable in occupational medicine.

(2) Medical examinations required by ~~the provisions of~~ R 325.52113(2) shall include a medical and work history or updated history if one is in the employee's file, with a special emphasis on the symptoms related to the handling of hazardous substances and health hazards and on fitness for duty, including the ability to wear any required personal protective equipment (PPE) under conditions that may be expected at the work site.

(3) The content of medical examinations or consultations pursuant to ~~the provisions of~~ R 325.52113(2) shall be determined by the attending physician. (See R 325.52137 for availability of appendix D, reference no. 10)

(4) An employer shall provide a copy of these rules and appendices to the attending physician and all of the following information for each employee who is to be examined:

- (a) A description of an employee's duties as they relate to the employee's exposures.
- (b) The employee's exposure levels or anticipated exposure levels.
- (c) A description of any personal protective equipment used or to be used.
- (d) Information from previous medical examinations of the employee which is not readily available to the examining physician.

(e) Information required pursuant to ~~the provisions of~~ **Occupational Health Standard Part 451 "Respiratory Protection," which is referenced in R 325.52102a.** ~~the respiratory protection standard, R 325.60051 et seq. of the Michigan Administrative Code.~~

R 325.52116 Medical surveillance recordkeeping.

Rule 16. (1) An accurate record of the medical surveillance required pursuant to ~~the provisions of~~ R 325.52113 shall be retained and provided to others in accordance with ~~the provisions of~~ **Occupational Health Standard Part 470 "Employee Medical Records and Trade Secrets," which is referenced in R 325.52102a** ~~R 325.3451 et seq. of the Michigan Administrative Code.~~

(2) The medical records required pursuant to ~~the provisions of~~ R 325.52115 and this rule shall include all of the following information:

- (a) The name and social security number of the employee.
- (b) A physician's written opinions, recommended limitations, and results of examinations and tests.
- (c) Any employee medical complaints related to exposure to hazardous substances.
- (d) A copy of the information provided to the examining physician by the employer, except for the copy of these rules and appendices.

R 325.52117 Control of hazards.

Rule 17. (1) Engineering controls, work practices, personal protective equipment, or a combination of these shall be implemented in accordance with ~~the provisions of~~ this rule to protect employees from exposure to hazardous substances and safety and health hazards.

(2) Engineering controls, such as pressurized control cabs on mobile equipment or remotely operated material handling equipment, and work practices, such as removing nonessential personnel from areas of high risk, shall be used to reduce and maintain employee exposures to or below permissible exposure limits, except to the extent that such controls and practices are not feasible.

(3) If engineering controls and work practices are not feasible or not required, any reasonable and appropriate combination of controls, practices, and personal protective equipment (PPE) shall be used to reduce and maintain employee exposures to or below the permissible exposure limits or dose limits for substances with a permissible exposure limit.

(4) An employer shall not use a schedule of employee rotation as a means to comply with permissible exposure limits or dose limits, except when there is no other feasible way of complying with the airborne or dermal dose limits for ionizing radiation.

(5) An employer shall comply with ~~all of the applicable provisions of~~ **Occupational Health Standard Part 380 “Occupational Noise Exposure,” Occupational Health Standard Part 381 “Ionizing Radiation,” and Occupational Health Standard Part 529 “Welding, Cutting and Brazing,” which are referenced in R 325.52102a** ~~O.H. rules 2410 to 3240 and R 325.60101 et seq. of the Michigan Administrative Code.~~

(6) Any reasonable and appropriate combination of engineering controls, work practices, and PPE shall be used to reduce and maintain employee exposure to or below published exposure levels for hazardous substances and health hazards without exposure or dose-regulating rules. The employer shall use ~~material~~ safety data sheets (MSDS) and other published literature as a guide in making a determination as to the level of appropriate protection.

R 325.52118 Personal protective equipment (PPE).

Rule 18. (1) Personal protective equipment (PPE) shall be selected and used to protect employees from the hazards and potential hazards they are likely to encounter as identified during the site characterization and analysis.

(2) Personal protective equipment selection shall be based on an evaluation of the performance characteristics of the PPE relative to the requirements and limitations of the site, the task-specific conditions and duration, and the hazards and potential hazards identified at the site.

(3) Positive-pressure, self-contained breathing apparatus or positive-pressure, air line respirators that are equipped with an escape air supply shall be used when chemical exposure levels will create a substantial possibility of immediate death or immediate serious illness or injury or will impair the ability to escape.

(4) Totally-encapsulating chemical protective suits (protection equivalent to level A protection as recommended in appendix B) shall be used in conditions where skin absorption of a hazardous substance may result in a substantial possibility of immediate death or immediate serious illness or injury or may impair the ability to escape.

(5) The level of protection provided by PPE selection shall be increased when additional information on site conditions indicates that increased protection is necessary to reduce employee exposures below permissible exposure limits and published exposure levels for hazardous substances and health hazards. (See R 325.52137 for availability of appendix B pertaining to selecting PPE ensembles.) The level of employee protection provided may be decreased when additional information or site conditions show that decreased protection will not result in hazardous exposures to employees.

~~(6) Personal protective equipment shall be selected, provided at no cost to the employee, and used in accordance with the requirements of the personal protective equipment standard, R 325.60001 et seq.; the respiratory protection standard, R 325.60051 et seq.; general industry safety standard Part 33. personal protective equipment, R 408.13301 et seq.; and construction safety standard Part 6. personal protective equipment, R 408.40601 et seq. of the Michigan Administrative Code.~~

~~(6)~~ (7) All of the following provisions pertain to the use of totally-encapsulating chemical protective suits.

(a) Totally-encapsulating suits shall be selected to protect employees from the particular hazards which are identified during site characterization and analysis.

(b) Totally-encapsulating suits shall be capable of maintaining a positive air pressure. Appendix A, **“Personal Protective Equipment Test Methods,”** ~~referenced in R 325.53137,~~ shall be consulted for a test method to evaluate this air pressure requirement.

(c) Totally-encapsulating suits shall be capable of preventing inward test gas leakage of more than 0.5%. See appendix A for a test method.

~~(7) (8)~~ An employer shall establish a written personal protective equipment (PPE) program which is part of the safety and health program required by ~~the provisions of R 325.52104 or R 325.52129.~~ This program is also a part of the site-specific safety and health plan specified in R 325.52104. The personal protective equipment program shall address all of the following elements if applicable:

(a) PPE selection based on site hazards.

(b) PPE use and limitations.

(c) Work duration.

(d) PPE maintenance and storage.

(e) PPE decontamination and disposal.

(f) PPE training and proper fitting.

(g) PPE donning and doffing procedures.

(h) PPE inspection before and after use.

(i) PPE proper use.

(j) Evaluation of the effectiveness of the PPE program.

(k) Limitations during temperature extremes and other appropriate medical considerations.

Manufacturer instructions relating to the subjects specified in ~~subrules subdivisions~~ (d) to (h) of this subrule may be incorporated into the PPE program.

R 325.52123 Tank and vault operations.

Rule 23. (1) Tanks and vaults that contain a hazardous substance shall be handled in a manner similar to that for drums and containers by following ~~the applicable provisions of R 325.52121.~~

(2) Appropriate tank or vault entry (confined space entry) procedures ~~which are in compliance with the provisions of~~ **Occupational Health Standard Part 490 “Permit-Required Confined Spaces” and Occupational Health Standard Part 451 “Respiratory Protection,”** ~~which are referenced in R 325.52102a, O.H. rules 3301 and 3302 and which are addressed in the site safety and health plan covered by the provisions of R 325.52104(6) shall be followed in all cases where employees enter tanks, vaults, or other confined spaces.~~

R 325.52124 Decontamination.

Rule 24. (1) Procedures for all phases of decontamination shall be developed and implemented in accordance with this rule.

(2) All of the following provisions apply to decontamination procedures:

(a) A decontamination procedure shall be developed, communicated to employees, and implemented before any employees or equipment may enter areas on site where the potential for exposure to hazardous substances exists.

(b) Standard operating procedures shall be developed to minimize employee contact with hazardous substances or with equipment that has contacted hazardous substances.

(c) All employees who leave a contaminated area shall be appropriately decontaminated and all contaminated clothing and equipment that leaves a contaminated area shall be appropriately disposed of or decontaminated.

(d) Decontamination procedures shall be monitored by the site safety and health supervisor to determine their effectiveness. When such procedures are found to be ineffective, appropriate steps shall be taken to correct any deficiencies.

(e) Decontamination shall be performed in geographical areas that will minimize the exposure of uncontaminated employees or equipment to contaminated employees or equipment.

(f) All equipment and solvents that are used for decontamination shall be decontaminated or disposed of properly.

(g) Protective clothing and equipment shall be decontaminated, cleaned, laundered, maintained, or replaced as needed to maintain the effectiveness of the clothing and equipment.

(h) Employees whose non-impermeable clothing becomes wetted with hazardous substances shall immediately remove that clothing and proceed to a shower. The clothing shall be disposed of or decontaminated before it is removed from the work zone.

(i) Unauthorized employees shall not remove protective clothing or equipment from change rooms.

(j) Commercial laundries or cleaning establishments that decontaminate protective clothing or equipment shall be informed of the potentially harmful effects of exposure to hazardous substances.

(3) Where the decontamination procedure indicates a need for regular showers and change rooms outside of a contaminated area, such showers and change rooms shall be provided and shall be in compliance with ~~the requirements of~~ **Occupational Health Standard Part 474 “Sanitation,” which is references in R 325.52102a** ~~O.H. rule 4201.~~

(4). If temperature conditions prevent the effective use of water, other effective means for cleansing shall be provided and used.

R 325.52125 Emergency operations at hazardous waste sites.

Rule 25. (1) An emergency response plan shall be developed and implemented by all **employers** ~~employees~~ within the scope of R 325.52102(1)(a) and (b) to handle anticipated emergencies before start-up of hazardous waste operations. The plan shall be in writing and available for inspection and copying by employees, their representatives, Michigan occupational safety and health program personnel, and other federal and state government personnel with relevant responsibilities. An employer who will evacuate its employees from the danger area when an emergency occurs and who does not permit any of its employees to respond to assist in handling the emergency is exempt from the requirements of this rule if the employer provides an emergency action plan that is in compliance with ~~the provisions of~~ General Industry Safety Standard Part 6 “Fire Exits,” ~~R 408.10601 et seq.~~ and Construction Safety Standard Part 18 “Fire Protection and Prevention,” **which are referenced in R 325.52102a;** ~~R 408.41801 et seq. of the Michigan Administrative Code. The provisions of these standards may be inspected and copies obtained at the Lansing office of the Michigan Department of Consumer and Industry Services, Standards Division, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan 48909, at no cost.~~

(2) The emergency response plan shall address all of the following topics:

(a) Pre-emergency planning.

(b) Personnel roles, lines of authority, training, and communication.

(c) Emergency recognition and prevention.

(d) Safe distances and places of refuge.

(e) Site security and control.

(f) Evacuation routes and procedures.

(g) Decontamination.

(h) Emergency medical treatment and first aid.

(i) Emergency alerting and response procedures.

- (j) A critique of response and follow-up.
- (k) PPE and emergency equipment.
- (3) In addition to the topics for the emergency response plan specified in subrule (2) of this rule, both of the following elements shall be included in an emergency response plan for a hazardous waste cleanup site:
 - (a) Site topography, layout, and prevailing weather conditions.
 - (b) Procedures for reporting incidents to local, state, and federal governmental agencies.
 - (4) The emergency response plan shall be a separate section of the site-specific safety and health plan and shall be compatible and integrated with disaster, fire, or emergency response plans of local, state, and federal agencies.
 - (5) The emergency response plan shall be rehearsed regularly as part of the overall training program for site operations and shall be reviewed periodically and amended, as necessary, to keep it current with new or changing site conditions or information.
 - (6) An employee alarm system shall be installed in accordance with ~~the provisions of General Industry Safety Standard Part 6 “Fire Exits,”~~ **which is referenced in R 325.52102a, R 408.10601 et seq. of the Michigan Administrative Code**, to notify employees of an emergency situation, to stop work activities if necessary, to lower background noise in order to enhance communication, and to begin emergency procedures. ~~The provisions of this standard may be inspected and copies obtained at the Lansing office of the Michigan Department of Consumer and Industry Services, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan 48909, at no cost.~~
 - (7) Based upon the information available at time of an emergency, an employer shall evaluate the incident and site response capabilities and proceed with the appropriate steps to implement the site emergency response plan.

R 325.52127 Sanitation.

- Rule 27.(1) All of the following provisions apply to potable water:
- (a) An adequate supply of potable water shall be provided on the site.
 - (b) Portable containers that are used to dispense drinking water shall be capable of being tightly closed and shall be equipped with a tap. Water shall not be dipped from containers.
 - (c) Any container that is used to distribute drinking water shall be clearly marked as to its contents and shall not be used for any other purpose.
 - (d) Where single-service cups are supplied, both a sanitary container for the unused cups and a receptacle for disposing of the used cups shall be provided.
- (2) Both of the following provisions apply to nonpotable water:
- (a) Outlets for nonpotable water, such as water for industrial or fire fighting purposes, shall be identified to indicate clearly that the water is unsafe and is not to be used for drinking, washing, or cooking purposes.
 - (b) There shall not be a cross-connection, open or potential, between a potable water system and a nonpotable water system.
- (3) All of the following provisions apply to toilet facilities.
- (a) Toilets shall be provided for employees according to the provisions of the following table:

Table 2
Toilet Facilities

| Number of employees | Minimum number of facilities |
|---------------------|------------------------------|
| 20 or less | One |

| | |
|-----------------------------|--|
| More than 20, less than 200 | One toilet seat and 1 urinal per 40 employees. |
| 200 or more | One toilet seat and 1 urinal per 50 employees. |

(b) Under temporary field conditions, at least 1 toilet facility shall be available.

(c) Hazardous waste sites that are not provided with a sanitary sewer shall be provided with any of the following toilet facilities, unless prohibited by local codes:

(i) Chemical toilets.

(ii) Recirculating toilets.

(iii) Combustion toilets.

(iv) Flush toilets.

(d) The requirements of this subrule shall not apply to mobile crews that have transportation readily available to nearby toilet facilities.

(e) Doors to toilet facilities shall be provided with locks that are controlled from inside.

(4) All employee food service facilities and operations shall meet the applicable laws, ordinances, and regulations of the jurisdictions in which they are located.

(5) When temporary sleeping quarters are provided, they shall be heated, ventilated, and lighted.

(6) An employer shall provide adequate washing facilities for employees who are engaged in operations where hazardous substances may be harmful to employees. Such facilities shall be near the worksite, in areas which are under the control of the employer, and where exposures are below permissible exposure limits. Such facilities shall be equipped to enable employees to remove hazardous substances from themselves.

(7) When hazardous waste cleanup or removal operations commence on a site and the duration of the work will require 6 or more months, an employer shall provide showers and change rooms for employees who are exposed to hazardous substances and health hazards involved in hazardous waste cleanup or removal operations. Showers shall be provided and shall meet the requirements of **Occupational Health Standard Part 474 "Sanitation," which is referenced in R 325.52102a. O.H. rule 4201(4)(e).** Change rooms shall be provided and shall meet the requirements of **Occupational Health Standard Part 474 "Sanitation," which is referenced in R 325.52102a. O.H. rule 4201(5).** Change rooms shall consist of 2 separate change areas separated by the shower area required by ~~the provisions of this subrule.~~ One change area, with an exit leading off the worksite, shall provide employees with a clean area where they can remove, store, and put on street clothing. The second area, with an exit to the worksite, shall provide employees with an area where they can put on, remove, and store work clothing and personal protective equipment. Showers and change rooms shall be located in areas where exposures are below the permissible exposure limits. If this cannot be accomplished, then a ventilation system shall be provided that will supply air that is below the permissible exposure limits. Employers shall assure that employees shower at the end of their workshifts and when leaving the hazardous waste site.

R 325.52129 Operations at treatment, storage, and disposal (TSD) facilities; establishment of written safety and health program, hazard communication program, medical surveillance program, decontamination procedures, procedures for introduction of new and innovative equipment, procedures for handling drums or containers, training program, and emergency response program

Rule 29. (1) ~~All provisions of this~~ **This rule applies** apply to employers who conduct operations at treatment, storage, and disposal (TSD) facilities specified in R 325.52102(1)(d), except for employers that may be exempted in accordance with ~~the provisions of~~ R 325.52102(4)(a) to (c).

(2) An employer shall develop and implement a written safety and health program for employees who are involved in hazardous waste operations. This written program shall be available for inspection by employees, employees' representatives, and Michigan occupational safety and health program (MIOSHA) personnel. The program shall be designed to identify, evaluate, and control safety and health hazards in the employer's facilities for the purpose of employee protection and shall provide for emergency response that is in compliance with ~~the requirements of this rule~~. The program shall address, as appropriate, all of the following areas:

- (a) Site analysis.
- (b) Engineering controls.
- (c) Maximum exposure limits.
- (d) Hazardous waste handling procedures.
- (e) Uses of new technologies.

(3) An employer shall implement a hazard communication program that is in compliance with the requirements of **Occupational Health Standard Part 430 "Hazard Communication," which is referenced in R 325.52102a.** ~~sections 14a to 14k of Act No. 154 of the Public Acts of 1974, as amended, being §§408.1014a to 408.1014k of the Michigan Compiled Laws.~~

(4) An employer shall develop and implement a medical surveillance program in accordance with ~~the provisions of R 325.52113 to R 325.52116.~~

(5) An employer shall develop and implement decontamination procedures in accordance with ~~the provisions of R 325.52124.~~

(6) An employer shall develop and implement procedures for the introduction of new and innovative equipment into the workplace in accordance with ~~the provisions of R 325.52128.~~

(7) An employer shall develop and implement procedures for handling drums or containers in accordance with ~~the provisions of R 325.52121 (2)(a) to (g) and R 325.52122~~ before starting work that involves the handling of drums or containers.

(8) An employer shall develop and implement, in accordance with all of the following provisions, a training program, which is part of the employers health and safety program, for employees who are exposed to health hazards or hazardous substances of TSD operations to enable the employees to perform their assigned duties and functions in a safe and healthy manner so as not to endanger themselves or other employees:

(a) The initial training program of new employees shall be a program of 24 hours of training. A certificate of such training shall be issued to each employee who successfully completes this training.

(b) Initial training need not be provided for current employees for whom it can be shown that their previous work experience or training is equivalent to the training requirement of subdivision (a) of this subrule.

(c) All employees shall be given 8 hours of refresher training annually.

(d) Trainers who provide the initial training specified in subdivision (a) of this subrule shall have satisfactorily completed a program for teaching the subjects they teach or shall have academic credentials and instruction experience to demonstrate a satisfactory degree of competency in the subjects they teach.

(9) An employer shall develop and implement an emergency response program in accordance with all of the following provisions:

(a) An emergency response plan shall be developed and implemented. The emergency response plan need not duplicate any of the subjects fully addressed in the employer's contingency planning required by permits, such as those issued by the United States environmental protection agency, if the contingency plan is made part of the emergency response plan. The emergency response plan shall be a written portion of the safety and health program required by subrule (2) of this rule.

(b) An employer who will evacuate its employees from the worksite when an emergency occurs and who does not permit any of its employees to assist in handling the emergency is exempt from the requirements of this subrule if the employer provides an emergency action plan in accordance with the provisions of General Industry Safety Standard Part 6 “Fire Exits,” ~~R 408.10601 et seq.~~ and Construction Safety Standard Part 18 “Fire Protection and Prevention,” **which are referenced in R 325.52102a.** ~~R 408.41801 et seq. of the Michigan Administrative Code as required in R 325.52125(1).~~

(c) The emergency response plan shall address all of the following topics to the extent that they are not addressed in any specific program required in this rule:

- (i) Pre-emergency planning and coordination with outside parties.
- (ii) Personnel roles, lines of authority, and communication.
- (iii) Emergency recognition and prevention.
- (iv) Safe distances and places of refuge.
- (v) Site security and control.
- (vi) Evacuation routes and procedures.
- (vii) Decontamination procedures.
- (viii) Emergency medical treatment and first aid.
- (ix) Emergency alerting and response procedures.
- (x) Critique of response and follow-up.
- (xi) PPE and emergency equipment.

(d) An employer shall provide and complete training for emergency response employees before they become involved in actual emergency operations. Such training shall include all of the following:

- (i) Elements of the emergency response plan.
- (ii) Standard operating procedures for emergency response operations.
- (iii) Personal protective equipment available and use and limitations of each.
- (iv) Procedures for handling emergency incidents.
- (v) Both exceptions to the training requirements of this subdivision are as follows:

(A) An employer need not train all employees to the degree specified if the employer divides the work force so that a sufficient number of employees who are responsible for controlling emergencies have the training specified and so that all other employees who might initially respond to an emergency incident have sufficient awareness training to recognize that an emergency response situation exists and that they are instructed in that case to summon the fully trained employees and not attempt control activities for which they are not trained.

(B) An employer need not train all employees to the degree specified if arrangements have been made in advance for an outside, fully trained emergency response team to respond in a reasonable period and all employees who might initially respond to the incident have sufficient awareness training to recognize that an emergency response situation exists and they have been instructed to call the designated outside, fully trained emergency response team for assistance.

(vi) Employee members of TSD facility emergency response organizations shall be trained to a level of competence in the recognition of health and safety hazards to protect themselves and other employees. This includes training in all of the following areas:

- (A) The methods used to minimize the risk from safety and health hazards.
- (B) The safe use of control equipment.
- (C) Selection and use of appropriate PPE.
- (D) Safe operating procedures to be used at the incident scene.
- (E) Techniques of coordination with other employees to minimize risks.
- (F) Appropriate response to overexposure to health hazards or injury to themselves or others.

(G) Recognition of subsequent symptoms which may result from overexposure.

(vii) An employer shall certify that each covered employee has attended and successfully completed the training required in this subdivision or shall certify the employee's competency at least yearly. The method used to demonstrate competency for certification of training shall be recorded and maintained by the employer.

(e) All of the following provisions pertain to the procedures for handling emergency incidents:

(i) In addition to the elements for the emergency response plan required by ~~subrule subdivision~~ (c) of this subrule, the following elements shall be included in emergency response plans to the extent that they do not repeat any information already contained in the emergency response plan:

(A) Site topography, layout, and prevailing weather conditions.

(B) Procedures for reporting incidents to local, state, and federal governmental agencies.

(ii) The emergency response plan shall be compatible and integrated with the disaster, fire, and emergency response plans of local, state, and federal agencies.

(iii) The emergency response plan shall be rehearsed regularly as part of the overall training program for site operations.

(iv) The site emergency response plan shall be reviewed periodically and, as necessary, be amended to keep it current with new or changing site conditions or information.

(v) An employee alarm system shall be installed in accordance with ~~the provisions of General Industry Safety Standard Part 6 "Fire Exits,"~~ **which is referenced in R 325.52102a, R 408.10601 et seq. of the Michigan Administrative Code,** to notify employees of an emergency situation, to stop work activities if necessary, to lower background noise to aid communication, and to begin emergency procedures.

(vi) Based upon the information available at the time of the emergency, an employer shall evaluate the incident and the site response capabilities and proceed with the appropriate steps to implement the site emergency response plan.

R 325.52130 Emergency response to hazardous substances releases; emergency response plan.

Rule 30. (1) This rule and R 325.52131 to R 325.52135 apply to employers whose employees are engaged in emergency response wherever it occurs, except in operations specified in ~~the provisions of~~ R 325.52102(1)(a) to (d).

(2) Emergency response organizations that have developed and implemented programs equivalent to the requirements of this rule and R 325.52131 to R 325.52135 for handling releases of hazardous substances pursuant to ~~the provisions of~~ section 303 of the Emergency Planning and Community Right-To-Know Act of 1986, 42 U.S.C. §11003, **"Comprehensive emergency response plans,"** shall be deemed to have met the requirements of this rule and R 325.52131 to R 325.52135.

(3) An emergency response plan shall be developed and implemented to handle anticipated emergencies before the commencement of emergency response operations. The plan shall be in writing and available for inspection and copying by employees, their representatives, and Michigan occupational safety and health program (MIOSHA) personnel. An employer who will evacuate its employees from the danger area when an emergency occurs and who does not permit any of its employees to assist in handling the emergency is exempt from the requirements of this subrule and subrule (4) of this rule if the employer provides an emergency action plan in accordance with ~~the provisions of General Industry Safety Standard Part 6 "Fire Exits," R 408.10601 et seq. and Construction Safety Standard Part 18 "Fire Protection and Prevention,"~~ **which are referenced in R 325.52102a. R 408.41801 et seq. of the Michigan Administrative Code.**

(4) An employer shall develop an emergency response plan which shall address all of the following to the extent that they are not addressed elsewhere:

(a) Pre-emergency planning and coordination with outside parties.

- (b) Personnel roles, lines of authority, training, and communication.
- (c) Emergency recognition and prevention.
- (d) Safe distances and places of refuge.
- (e) Site security and control.
- (f) Evacuation routes and procedures.
- (g) Decontamination.
- (h) Emergency medical treatment and first aid.
- (i) Emergency alerting and response procedures.
- (j) Critique of response and follow-up.
- (k) PPE and emergency equipment.

(5) Emergency response organizations may use the local emergency response plan or the state emergency response plan, or both, as part of their emergency response plan to avoid duplication. Those items of the emergency response plan that are properly addressed by the local and state emergency plans may be substituted into an employer's emergency plan or otherwise kept together for use by employers and employees, use.

R 325.52131 Emergency response procedures.

Rule 31. (1) The senior emergency response official who responds to an emergency shall become the individual in charge of a site-specific incident command system (ICS). All emergency responders and their communications shall be coordinated and controlled through the individual in charge of the ICS, and shall be assisted by the senior official present for each employer.

(2) The senior official at an emergency response is the most senior official on the site who is responsible for controlling the operation at the site. Initially, it is the senior officer on the first piece of responding emergency apparatus to arrive on the incident scene who is the senior official. As more senior officers arrive, such as the battalion chief, fire chief, state law enforcement official, or site coordinator, the position of senior official is passed up the line of authority which has been previously established.

(3) The individual in charge of the ICS shall identify, to the extent possible, all hazardous substances or conditions present and shall address, as appropriate, all of the following:

- (a) Site analysis.
- (b) Use of engineering controls.
- (c) Maximum exposure limits.
- (d) Hazardous substance handling procedures.
- (e) The use of any new technologies.

(4) Based on the hazardous substances or conditions present, the individual in charge of the ICS shall implement appropriate emergency operations and assure that the personal protective equipment worn is appropriate for the hazards to be encountered. However, personal protective equipment shall meet the criteria contained in ~~the occupational safety standards for~~ General Industry **Safety Standard** Part 73 "Fire Brigades," **which is referenced in R 325.52102a, being R 408.17301 et seq. of the Michigan Administrative Code,** when worn while performing fire fighting operations beyond the incipient stage for any incident.

(5) Employees who are engaged in emergency response and who are exposed to hazardous substances that present an inhalation hazard or potential inhalation hazard shall wear positive-pressure, self-contained breathing apparatus while engaged in emergency response and until such time that the individual in charge of the ICS determines, through the use of air monitoring, that a decreased level of respiratory protection will not result in hazardous exposures to employees.

(6) The individual in charge of the ICS shall limit the number of emergency response personnel at the emergency site in those areas of potential or actual exposure to incident or site hazards to those who are actively performing emergency operations. However, operations in hazardous areas shall be performed using the buddy system in groups of 2 or more.

(7) Back-up personnel shall stand by with equipment ready to provide assistance or rescue. Qualified emergency medical service personnel shall also stand by with medical equipment and transportation capability.

(8) The individual in charge of the ICS shall designate a safety official, who is knowledgeable in the operations being implemented at the emergency response site, with specific responsibility for identifying and evaluating hazards and for providing direction with respect to the safety of operations for the emergency.

(9) When activities are judged by the safety official to be an IDLH or imminent danger condition, the safety official shall have the authority to alter, suspend, or terminate those activities. The safety official shall immediately inform the individual in charge of the ICS of any actions taken to correct these hazards at an emergency scene.

(10) After emergency operations have terminated, the individual in charge of the ICS shall implement appropriate decontamination procedures.

(11) Approved self-contained, compressed air breathing apparatus may, if necessary, be used with approved cylinders from other approved self-contained, compressed air breathing apparatus if such cylinders are of the same capacity and pressure rating. All compressed air cylinders that are used with self-contained breathing apparatus shall meet the criteria of the United States Department of Transportation and National Institute for Occupational Safety and The Department of Public Health adopted federal standards by reference January 1, 1975 which are adopted in these rules by reference. The criteria are set forth in ~~the provisions of~~ 42 C.F.R. Part 84 **“Approval of Respiratory Protective Devices,”** and 49 C.F.R. Parts 173 **“Pipeline and Hazardous Materials Safety Administration, Department of Transportation,”** and 178 **“Pipeline and Hazardous Materials Safety Administration, Department of Transportation,”** as adopted in R 325.52102a. ~~which may be inspected at the Lansing office of the department of consumer and industry services and may be purchased from the Superintendent of Documents, Government Printing Office, Washington, DC 20402, or from the Michigan Department of Consumer and Industry Services, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan 48909, at a cost at the time of adoption of these rules of \$20.00 for copies of 30 C.F.R. part 84 and at a cost at the time of adoption of these rules of \$24.00 for copies of 49 C.F.R. parts 173 and 178.~~

R 325.52135 Post-emergency response operations.

Rule 35. (1) Upon completion of the emergency response, ~~if it is determined that it is necessary to remove~~ **the** hazardous substances, health hazards, and materials contaminated with them, such as contaminated soil or other elements of the natural environment, **are removed** from the site of the incident, the employer who conducts the cleanup shall comply with either of the following provisions:

(a) Meet all of the requirements of R 325.52104 to R 325.52128.

(b) Where the cleanup is done on plant property using plant or workplace employees, such employees shall have completed the training requirements of all of the following:

(i) The provisions of General Industry Safety Standard Part 6 “Fire Exits,” ~~R 408.10601 et seq.~~ and Construction Safety Standard Part 18 “Fire Protection and Prevention,” **which are referenced in R 325.52102a.** ~~R 408.41801 et seq. of the Michigan Administrative Code as required in R 325.52125(1).~~

(ii) The provisions of ~~29 C.F.R. §1910.1200(h),~~ **Occupational Health Standard Part 430 “Hazard Communication,” which is referenced in R 325.52102a.**

(iii) The provisions of **Occupational Health Standard Part 451 “Respiratory Protection,”** which is referenced in **R 325.52102a** ~~the respiratory protection standard, R 325.60051 et seq. of the Michigan Administrative Code.~~

(iv) Other appropriate safety and health training appropriate to the tasks.

(2) All equipment that is to be used in the cleanup of the site of an incident shall be in serviceable condition and shall have been inspected before use.

R 325.52136 Rescinded. ~~Appendices.~~

~~Rule 36. Appendices A, B, C, and D to these rules are informational only and are not intended to create any additional obligations or requirements not otherwise imposed or to detract from any established obligations or requirements. They are identical to appendices A, B, C, and D to 29 C.F.R. §1910.120 from which these rules were derived.~~

R 325.52137 Rescinded. ~~Availability of rules and appendices; permission to copy~~

~~Rule 37. (1) Copies of these rules and related appendices are available, at no cost, from the Michigan Department of Consumer and Industry Services, Standards Division, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan 48909.~~

~~(2) Permission to copy any of these documents in full is granted by the director of the department of consumer and industry services.~~

PROPOSED ADMINISTRATIVE RULES

**DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS ~~CONSUMER AND INDUSTRY~~
SERVICES**

DIRECTOR'S OFFICE

OCCUPATIONAL HEALTH STANDARDS

Proposed Draft August 14, 2013

Filed with the Secretary of State on

These rules become effective immediately upon filing with the Secretary of State unless adopted under section 33, 44, or 45a(6) of 1969 PA 306. Rules adopted under these sections become effective 7 days after filing with the Secretary of State.

(By authority conferred on the director of the department of **licensing and regulatory affairs by sections 14 and 24 of 1974 PA 154, MCL 408.1001 to 408.1094, and Executive Reorganization Order Nos. 1996-1, 1996-2, 2003-1, 2008-4, and 2011-4, MCL 330.3101, 445.2001, 445.2011, 445.2025, and 445.2030.**) ~~consumer and industry services by sections 14 and 24 of 1974 PA 154 and Executive Reorganization Orders Nos. 1996-1 and 1996-2, MCL 408.1014, 408.1024, 330.3101, and 445.2001)~~

R 325.70101, R 325.70103, R 325.70107, R 325.70109, R 325.70110, and R 325.70111 of the Michigan Administrative Code are amended, and R 325.70102a is added, and R 325.70113 and R 325.70114 are rescinded, as follows:

PART 431. HAZARDOUS WORK IN LABORATORIES

R 325.70101. Scope; effective date of subrule (2).

Rule 1. (1) These rules set forth the requirements for laboratory use of hazardous chemicals. Subjects to which these rules apply include all of the following:

- (a) Exposure limits.
- (b) Exposure monitoring.
- (c) Written chemical hygiene plan.
- (d) Employee information and training.
- (e) Medical surveillance.
- (f) Hazard identification.
- (g) Use of respiratory protection.
- (h) Recordkeeping.

(2) These rules, where they apply as specified in R 325.70102, supersede all Michigan occupational safety and health act (MIOSHA) occupational health standards that govern the use of specific chemical substances, except as provided in R 325.70104, R 325.70105, and R 325.70108. Also, where they apply, these rules supersede the requirements of the occupational safety and health administration (OSHA) hazard communication standard, being 29 C.F.R. §1910.1200, which is incorporated by section 14a of

1974 PA 154, MCL 408.1014a. This subrule takes effect when an employer has developed and implemented a written chemical hygiene plan as prescribed by R 325.70106.

(3) All occupational health standards that do not deal with a specific chemical substance apply to laboratory operations as do any occupational safety standards administered by the Michigan department of **Licensing and Regulatory Affairs**. ~~consumer and industry services~~. Such non-chemical substance standards that apply to laboratory operations include all of the following rules, **which are referenced in R 325.70102a**:

(a) **Occupational Health Standard Part 380** “Occupational Noise Exposure.” ~~Part 380., R 325.60101. et seq.~~

(b) **Occupational Health Standard Part 381** “Ionizing Radiation.” ~~Part 381., O.H. 2410 et seq.~~

(c) **Occupational Health Standard Part 382** “Nonionizing Radiation.” ~~Part 382., R 325.60701 et seq.~~

(d) **Occupational Health Standard Part 520** “Ventilation Control.” ~~Part 520., O.H. 3101 et seq.~~

(e) **Occupational Health Standard Part 490** “Permit-Required Confined Spaces.” ~~Part 490., R 325.63001 et seq.~~

(f) **Occupational Health Standard Part 451** “Respiratory Protection.” ~~Part 451., R 325.60051 et seq.~~
(g) ~~Illumination, Part 478., R 325.47801 et seq.~~

(g)(h) **Occupational Health Standard Part 474** “Sanitation.” ~~Part 474., O.H. 4201 et seq.~~

(h)(i) **Occupational Health Standard Part 472** “Medical Services and First Aid.” ~~Part 472., R 325.47201. et seq.~~

(i)(j) **Occupational Health Standard Part 470** “Employee Medical Records and Trade Secrets.” ~~Part 470., R 325.3451 et seq.~~

R 325.70102a. Referenced standards and appendices.

Rule 2a. (1) The OSHA standard 29 C.F.R. §1910.1450 “Occupational exposure to hazardous chemicals in laboratories,” is adopted by reference in these rules. A copy of this regulation is available from the U.S. Department of Labor, via the internet at website www.osha.gov, at no charge as of the time of adoption of these rules.

(2) The standard adopted in subrule (1) of this rule is also available for inspection at the Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, Lansing, Michigan, 48909-8143.

(3) Copies of the standard adopted in subrule (1) of this rule may be obtained from the publisher or may also be obtained from the Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143, at the cost charged in this rule, plus \$20.00 for shipping and handling.

(4) The following Michigan occupational safety and health standards are referenced in these rules. Up to 5 copies of these standards may be obtained at no charge from the Michigan Department of licensing and regulatory affairs, MIOSHA standards section, 7150 Harris Drive, P.O. Box 30643, Lansing, MI, 48909-8143 or via the internet at website: www.michigan.gov/mioshastandards. For quantities greater than 5, the cost, at the time of adoption of these rules, is 4 cents per page.

(a) Occupational Health Standard Part 380 “Occupational Noise Exposure,” R 325.60101 to R 325.60128.

(b) Occupational Health Standard Part 381 “Ionizing Radiation,” R 325.60601a to R 325.60618.

(c) Occupational Health Standard Part 382 “Nonionizing Radiation,” R 325.60701 to R 325.60704.

(d) Occupational Health Standard Part 430 “Hazard Communication,” R 325.77001 to R 325.77003.

(e) Occupational Health Standard Part 451 “Respiratory Protection,” R 325.60051 to R 325.60052.

(f) Occupational Health Standard Part 470 “Employee Medical Records and Trade Secrets,” R 325.3451 to R 325.3476.

(g) Occupational Health Standard Part 472 “Medical Services and First Aid,” R 325.47201.

(h) Occupational Health Standard Part 474 “Sanitation,” R 325.47401 to R 325.47425.

(i) Occupational Health Standard Part 490 “Permit-Required Confined Spaces,” R 325.63001 to R 325.63049.

(j) Occupational Health Standard Part 520 “Ventilation Control,” R 325.52001 to R 325.52012.

(5) Appendices to these rules are informational only and are not intended to create any additional obligations or requirements not otherwise imposed by these rules or to detract from any established obligations or requirements.

R 325.70103. Definitions.

Rule 3. ~~As used in these rules:~~ (1)(a) “Action level” means a concentration which is designated in established MIOSHA health standards for a specific substance, calculated as an 8-hour, time-weighted average, and which initiates certain required activities, such as exposure monitoring and medical surveillance.

(2)(b) “Chemical hygiene officer” means an employee who is designated by the employer, and who is qualified by training or experience, to provide technical guidance in the development and implementation of the provisions of the Chemical Hygiene Plan. This definition is not intended to place limitations on the position description or job classification that the designated individual shall hold within the employer's organizational structure.

(3)(c) “Chemical Hygiene Plan” means a written program which is developed and implemented by the employer, which sets forth procedures, equipment, personal protective equipment, and work practices that are capable of protecting employees from the health hazards presented by the hazardous chemicals used in a particular workplace, and which is in compliance with ~~the requirements of~~ R 325.70106.

(4)(d) “Director” means the director of the Michigan department of **Licensing and Regulatory Affairs** ~~consumer and industry services~~ or his or her designee.

(5)(e) “Emergency” means any occurrence, such as equipment failure, the rupture of containers, or the failure of control equipment, that results in an uncontrolled release of a hazardous chemical into the workplace.

(6)(f) “Employee” means a person who is assigned to work in a laboratory workplace and who may be exposed to hazardous chemicals in the course of his or her assignments.

(7)(g) “Hazardous chemical” means **a any chemical which is classified as health hazard or simple asphyxiant in accordance with the Occupational Health Standard Part 430 “Hazard Communication,” as referenced in R 325.70102a.** ~~which there is statistically significant evidence, based on at least 1 study that is conducted in accordance with established scientific principles, that acute or chronic health effects may occur in employees who are exposed to the chemical. These health effects include those that result from exposure to chemicals which are any of the following:~~

(i) ~~Carcinogens.~~

(ii) ~~Toxic or highly toxic agents.~~

(iii) ~~Reproductive toxins.~~

(iv) ~~Irritants.~~

(v) ~~Corrosives.~~

(vi) ~~Sensitizers.~~

(vii) ~~Hepatotoxins.~~

~~(viii) Nephrotoxins.~~

~~(ix) Neurotoxins.~~

~~(x) Agents that act on the hematopoietic systems.~~

~~(xi) Agents that damage the lungs, skin, eyes, or mucous membranes.~~

~~Appendices A and B of the OSHA hazard communications standard, being 29 C.F.R. §1910.1200 and referenced in R 325.70101(2), provide further guidance in defining the scope of health hazards and determining whether or not a chemical is to be considered hazardous for purposes of these rules.~~

(8) Health hazard means a chemical that is classified as posing 1 of the following hazardous effects:

(a) Acute toxicity, any route of exposure.

(b) Skin corrosion or irritation.

(c) Serious eye damage or eye irritation.

(d) Respiratory or skin sensitization.

(e) Germ cell mutagenicity.

(f) Carcinogenicity.

(g) Reproductive toxicity.

(h) Specific target organ toxicity, single or repeated exposure.

(i) Aspiration hazard.

(j) The criteria for determining whether a chemical is classified as a health hazard are detailed in Appendix A of Occupational Health Standard Part 430 “Hazard Communication,” as referenced in R 325.70102a, rule §1910.1200(c) which includes the definitions of “simple asphyxiant”.

~~(9)(h)~~ **“Laboratory” means a facility where the laboratory use of hazardous chemicals occurs. It is a workplace where relatively small quantities of hazardous chemicals are used on a nonproduction basis.**

(10) “Laboratory scale” means work with substances in which the containers used for reactions, transfers, and other handling of substances are designed to be easily and safely manipulated by 1 person. “Laboratory scale” does not mean those workplaces whose function is to produce commercial quantities of materials.

~~(11)(i)~~ **“Laboratory-type hood” means a work chamber which is used in a laboratory, which is enclosed on 5 sides and has a moveable sash or fixed partial closure on the remaining side, which is constructed and maintained to draw air from the laboratory and prevent or minimize the escape of air contaminants into the laboratory, and which allows chemical manipulations to be conducted in the enclosure without inserting any portion of the employee's body other than hands and arms. The term includes walk-in hoods with adjustable sashes if the sashes are adjusted during use so that the airflow and the exhaust of air contaminants are not compromised and so that employees do not work inside the enclosure during the release of airborne hazardous chemicals.**

~~(12)(j)~~ **“Laboratory use of hazardous chemicals” means the handling or use of such chemicals in which all of the following conditions are met:**

~~(a)(i)~~ **Chemical manipulations are carried out on a laboratory scale.**

~~(b)(ii)~~ **Multiple chemical procedures or chemicals are used.**

~~(c)(iii)~~ **The procedures that are involved are not part of production process, nor in any way simulate a production process.**

~~(d)(iv)~~ **Protective laboratory practices and equipment are available and in common use to minimize the potential for employee exposure to hazardous chemicals.**

~~(13)(k)~~ **“Medical consultation” means a consultation that takes place between an employee and a licensed physician to determine what medical examinations or procedures, if any, are appropriate.**

(14) “Mutagen” means chemicals that cause permanent changes in the amount or structure of the genetic material in a cell. Chemicals classified as mutagens in accordance with Occupational

Health Standard Part 430 “Hazard Communication,” as referenced in R 325.70102a, shall be considered mutagens for purposes of these rules.

(15)(+) “Physical hazard” means a chemical that is classified as posing 1 of the following hazardous effects:

- (a) Explosive.**
- (b) Flammable, gases, aerosols, liquids, or solids.**
- (c) Oxidizer as a liquid, solid, or gas.**
- (d) Self-reactive.**
- (e) Pyrophoric as a gas, liquid or solid.**
- (f) Self-heating.**
- (g) Organic peroxide.**
- (h) Corrosive to metal.**
- (i) Gas under pressure.**
- (j) In contact with water emits flammable gas.**
- (k) Combustible dust.**

(l) The criteria for determining whether a chemical is classified as a physical hazard are in Appendix B of Occupational Health Standard Part 430 “Hazard Communication,” as referenced in R 325.70102a, rule §1910.1200(c) which includes the definitions of "combustible dust" and "pyrophoric gas." ~~for which there is scientifically valid evidence that it is any of the following:~~

- ~~(i) A combustible liquid.~~
- ~~(ii) A compressed gas.~~
- ~~(iii) Explosive.~~
- ~~(iv) Flammable.~~
- ~~(v) An organic peroxide.~~
- ~~(vi) An oxidizer.~~
- ~~(vii) Pyrophoric.~~
- ~~(viii) Unstable (reactive).~~
- ~~(ix) Water reactive.~~

~~These terms are defined in appendix B of these rules.~~

~~(m) “Production” means the manufacturing processes that use hazardous chemicals and result in a product.~~

(16)(+) “Protective laboratory practices and equipment” means those laboratory procedures, practices, and equipment that are accepted by laboratory health and safety experts as effective, or that the employer can show to be effective, in minimizing the potential for employee exposure to hazardous chemicals.

(17)(+) “Reproductive toxins” means chemicals that affect the reproductive capabilities, including adverse effects on sexual function and fertility in adult males and females, as well as adverse effects on the development of the offspring. Chemicals classified as reproductive toxins in accordance with the Occupational Health Standard Part 430 “Hazard Communication,” as referenced in R 325.70102a, shall be considered reproductive toxins for purposes of these rules.
~~chromosomal damage (mutations) and effects on fetuses (teratogenesis).~~

(18)(p) “Select carcinogen” means any substance that meets 1 or more of the criteria set forth in the definition of select carcinogen in paragraph (b) of OSHA standard 29 C.F.R. §1910.1450, paragraph (b), as referenced in R 325.70102a, which is adopted herein by reference. The cited provision of 29 C.F.R. §1910.1450 is available from the Michigan Department of Consumer and Industry Services, Standards Division, P.O. Box 30643, Lansing, Michigan 48909, at no cost, or from the U.S. Department

~~of Labor, OSHA, 801 S. Waverly, Suite 306, Lansing, Michigan 48917, at no cost.~~ The cited definition is printed as Appendix C to these rules.

R 325.70107. Employee information and training.

Rule 7. (1) An employer shall provide employees with information and training to ensure that they are apprised of and understand the hazards of chemicals present in their work areas.

(2) Such information shall be provided at the time of an employee's initial assignment to a work area where hazardous chemicals are present and before assignments that involve new exposure situations. Refresher information and training shall be provided by the employer to ensure that an employee is aware of the risks of exposure to hazardous chemicals.

(3) Employees shall be informed of all of the following:

(a) The contents of these rules and appendices, which shall be made available to employees.

(b) The location and availability of the employer's chemical hygiene plan.

(c) The permissible exposure limits for MIOSHA-regulated substances or the recommended exposure limits for other hazardous chemicals if there are no applicable MIOSHA rules.

(d) Signs and symptoms associated with exposures to hazardous chemicals that are used in the laboratory.

(e) The location and availability of known reference material on the hazards, safe handling, storage, and disposal of hazardous chemicals found in the laboratory including, **but not limited to**, ~~material~~ safety data sheets (**SDS**) (~~MSDS~~) received from a chemical supplier.

(4) Employee training shall include all of the following:

(a) Methods and observations that may be used to detect the presence or release of a hazardous chemical, such as monitoring conducted by the employer, continuous monitoring devices, and the visual appearance or odor of hazardous chemicals when being released.

(b) The physical and health hazards of chemicals in the work environment.

(c) The measures employees can take to protect themselves from health hazards, including specific procedures that the employer has implemented to protect employees from exposure to hazardous chemicals, such as appropriate work practices, emergency procedures, and personal protective equipment to be used.

(5) The employee shall be trained about the applicable details of the employer's written chemical hygiene plan.

R 325.70109. Hazard identification.

Rule 9. (1) With respect to labels and ~~material~~ safety data sheets (**SDS**) (~~MSDS~~) for hazardous chemicals, both of the following provisions apply:

(a) Employers shall ensure that labels on incoming containers of hazardous chemicals are not removed or defaced.

(b) Employers shall maintain any **safety data sheets** ~~MSDS~~ that are received with incoming shipments of hazardous chemicals and ensure that **safety data sheets** ~~MSDS~~ are readily accessible to laboratory employees.

(2) All of the following provisions shall apply to chemical substances that are developed in the laboratory:

(a) If the composition of the chemical substance that is produced exclusively for the laboratory's use is known, an employer shall determine if it is a hazardous chemical. If the **employer determines that the** chemical is ~~determined to be~~ hazardous, the employer shall provide appropriate training as required by R 325.70107.

(b) If the chemical produced is a by-product of unknown composition, an employer shall assume that the substance is hazardous and shall implement the provisions of R 325.70106.

(c) If the chemical substance is produced for another user outside of a laboratory, an employer shall comply with the **Occupational Health Standard Part 430 “Hazard Communication,”** ~~OSHA hazard communication standard, being 29 C.F.R. §1910.1200, which is~~ as referenced in **R 325.70102a,** ~~R 325.70101, including the requirements for preparation of safety data sheets and labeling.~~

R 325.70110. Use of respiratory protection.

Rule 10. If, after appropriate application of feasible engineering and work practice controls, the use of respirators is necessary to maintain exposure below permissible exposure limits, the employer shall provide, at no cost to the employee, the proper respiratory protection equipment. Respirators shall be selected and used in accordance with the requirements of **Occupational Health Standard Part 451 “Respiratory Protection,”** ~~as referenced in R 325.70102a. Part 451., R 325.60051 et seq.~~

R 325.70111. Recordkeeping.

Rule 11. (1) An employer shall establish and maintain, for each employee, an accurate record of any measurements taken to monitor employee exposures and any medical consultation and examinations, including tests or written opinions required by these rules.

(2) An employer shall assure that such records are kept, transferred, and made available in accordance with the provisions of **Occupational Health Standard Part 470 “Employee Medical Records and Trade Secrets,”** ~~as referenced in R 325.70102a, Part 470., R 325.3451 et seq.,~~ and are protected from unauthorized disclosure.

R 325.70113. **Rescinded.** ~~Appendices~~

~~Rule 13. Appendices A, B, C, and D to these rules are informational only and are not intended to create any additional obligations or requirements not otherwise imposed by these rules or to detract from any established obligations or requirements.~~

R 325.70114. **Rescinded.** ~~Availability of rules and appendices; permission to copy~~

~~Rule 14. (1) A copy of these rules and appendices are available at no cost from the Michigan Department of Consumer and Industry Services, Standards Division, P.O. Box 30643, Lansing, Michigan 48909.~~

~~(2) Permission to copy any of these documents in full is granted by the director.~~

PROPOSED ADMINISTRATIVE RULES

DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS ~~consumer and industry services~~

DIRECTOR'S OFFICE ~~bureau of safety and regulation~~

OCCUPATIONAL HEALTH STANDARDS

~~INORGANIC ARSENIC (AS)~~

Proposed Draft August 14, 2013

Filed with the Secretary of State on

These rules become effective immediately upon filing with the Secretary of State unless adopted under section 33, 44, or 45a(6) of 1969 PA 306. Rules adopted under these sections become effective 7 days after filing with the Secretary of State.

(By authority conferred on the director of the department of **licensing and regulatory affairs** ~~consumer and industry services~~ by section 24 of 1974 PA 154, and **Executive Reorganization Order Nos. 1996-2, 2003-1, 2008-4, and 2011-4, MCL 445.2001, 445.2011, 445.2025, and 445.2030**) ~~MCL 408.1024, and Executive Reorganization Order Nos. 1996-1 and 1996-2, MCL 330.3101 and 445.2001~~

R 325.51602, R 325.51605, R 325.51606, R 325.51609, R 325.51610, R 325.51611, R 325.51614, R 325.51616, R 325.51618, R 325.51619, R 325.51622, R 325.51624, R 325.51625, and R 325.51626 of the Michigan Administrative Code are amended, R 325.51601a, R 325.51611a, R 325.51614a, R 325.51623a, and R 325.51623b are added, and R 325.51604, R 325.51623, and R 325.51628 are rescinded, as follows:

PART 308. INORGANIC ARSENIC (As)

R 325.51601a MIOSHA standards by reference.

Rule 601a. (1) The following Michigan occupational safety and health administration (MIOSHA) standards are referenced in these rules. Up to 5 copies of these standards may be obtained at no charge from the Michigan Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, MI, 48909-8143 or via the internet at website: www.michigan.gov/mioshastandards. For quantities greater than 5, the cost, at the time of adoption of these rules, is 4 cents per page.

(a) General Industry Safety Standard Part 33 “Personal Protective Equipment,” R 408.13301 to R 408.13398.

(b) Occupational Health Part 430 “Hazard Communication,” R 325.77001 to R 325.77003.

(c) Occupational Health Part 451 “Respiratory Protection,” R 325.60051 to R 325.60052.

(d) Occupational Health Part 470 “Employee Medical Records and Trade Secrets,” R 325.3451 to R 325.3476.

(e) Occupational Health Part 474 “Sanitation,” R 325.47401 to R 325.47425.

(2) The information contained in the appendices to these rules are not intended by itself, to create

any additional obligations not otherwise imposed by this standard nor detract from any existing obligation.

R 325.51602 Definitions.

Rule 602. As used in these rules:

- (a) "Act" means **1974 PA 154, MCL Act No. 154 of the Public Acts of 1974, as amended, being §408.1001 to 408.1094, et seq. of the Michigan Compiled Laws.**
- (b) "Action level" means a concentration of inorganic arsenic of 5 micrograms per cubic meter of air (5 ug/m³) averaged over any 8-hour period.
- (c) "Authorized person" means a person who is specifically required by the employer to enter a regulated area or a person who enters such an area as a designated representative of employees for the purpose of observing the monitoring and measuring procedures under R 325.51627.
- (d) "Department" means the department of **licensing and regulatory affairs.** ~~consumer and industry services.~~
- (e) "Director" means the director of the department or **his or her** ~~the~~ designee. ~~of the director.~~
- (f) "Inorganic arsenic" means elemental arsenic, copper acetoarsenite, and all inorganic compounds containing arsenic, except arsine, measured as arsenic (As).
- (g) ~~"O.H. rule" means an occupational health rule which is adopted by reference pursuant to section 14 of the act or promulgated pursuant to section 24 of the act. Copies of these rules are available from the Michigan department of consumer and industry services, standards division.~~

R 325.51604 **Rescinded.** ~~Regulated areas; report of information to director; change of information.~~

~~Rule 604. (1) Within 60 days after the effective date of these rules or within 60 days after the introduction of inorganic arsenic into the workplace, an employer who is required to establish a regulated area in his or her workplace shall report all of the following information in writing to the director:~~

- ~~(a) The address of the workplace.~~
- ~~(b) The approximate number of employees who will be working in a regulated area.~~
- ~~(c) A brief summary of the operations creating the exposure and the actions which the employer intends to take to reduce exposure if it exceeds the permissible exposure limit.~~
- ~~(2) If there is a significant change in the information required by this rule, an employer shall report the changes in writing to the director within 60 days of the change.~~

R 325.51605 Employee exposure; determination of airborne exposure levels; collection of samples; monitoring and measurement accuracy; written notice to employee of exposure level.

Rule 605. (1) For the purpose of these rules, employee exposure is that exposure which would occur if an employee were not using a respirator.

(2) A determination of airborne exposure levels shall be made from air samples that are representative of an employee's exposure to inorganic arsenic over an 8-hour period.

(3) The employer shall collect full shift personal samples for not less than 7 continuous hours which shall include at least 1 sample for each shift for each job classification and work area.

(4) An employer shall use a method of monitoring and measurement which has an accuracy of not less than plus or minus 25% for concentrations of inorganic arsenic of more than or equal to 10 micrograms per cubic meter (10 ug/m³) with a confidence level of 95%.

(5) An employer shall use a method of monitoring and measurement which has an accuracy of not less than plus or minus 35% for concentrations of inorganic arsenic of more than 5 micrograms per cubic meter (5 ug/m³) but less than 10 micrograms per cubic meter (10 ug/m³) with a confidence level of

95%.

(6) The employer shall, within 15 working days after the receipt of the results of any monitoring performed under these rules, notify each affected employee of these results either individually in writing or by posting the results in an appropriate location that is accessible to affected employees.
~~Within 5 working days after the receipt of monitoring results, an employer shall provide an employee with written notice of the results which represent that employee's exposure.~~

(7) If the results indicate that the representative employee exposure exceeds the permissible exposure limit, the employer shall include in the written notice a statement that the permissible exposure limit was exceeded and a description of the corrective action taken to reduce exposure to or below the permissible exposure limit.

R 325.51606 Employee exposure; monitoring exposure below action level, above permissible limit, and above action level but below permissible limit; duration of monitoring; additional monitoring.

Rule 606. (1) An employer who has a workplace or work operation that is subject to these rules shall monitor each workplace or work operation to accurately determine the airborne concentration of inorganic arsenic to which an employee may be exposed.

(2) If the initial monitoring reveals an employee exposure to be below the action level, the measurements need not be repeated, except as otherwise provided in subrule (6) of this rule.

(3) If the initial monitoring or subsequent monitoring reveals employee exposure to be above the permissible exposure limit, an employer shall repeat monitoring at least once every 3 months.

(4) If the initial monitoring or subsequent monitoring reveals employee exposure to be above the action level and below the permissible exposure limit, an employer shall repeat monitoring at least once every 6 months.

(5) An employer shall continue monitoring at the required frequency until not less than 2 consecutive measurements, taken not less than 7 days apart, are below the action level. When the measurements are obtained, the employer may discontinue monitoring for that employee until such time as any of the events in subrule (6) of this rule occur.

(6) If a production process, control, or personnel change is made that might result in new or additional exposure to inorganic arsenic, or if an employer has any other reason to suspect a change that might result in new or additional employee exposure to inorganic arsenic, additional monitoring that is in compliance with ~~the provisions of~~ R 325.51605 and this rule shall be conducted.

R 325.51609 Employee exposure; written programs to reduce exposure by means of engineering and work practice controls; content; availability; revision and update.

Rule 609. (1) An employer shall establish and implement a written program to reduce exposures to or below the permissible exposure limit by means of engineering and work practice controls.

(2) A written program shall include, at a minimum, all of the following:

(a) A description of each operation in which inorganic arsenic is emitted; for example, machinery used, material processed, controls in place, crew size, operating procedures, and maintenance practices.

(b) Engineering plans and studies used to determine the methods selected for controlling exposure to inorganic arsenic.

(c) A report of the technology considered in meeting the permissible exposure limit.

(d) Monitoring data.

(e) A detailed schedule for the implementation of the engineering controls and work practices which cannot be implemented immediately and for the adaption and implementation of any additional engineering and work practices which are necessary to meet the permissible exposure limit.

(f) If an employer currently does not achieve the permissible exposure limit with engineering controls

and work practices, the employer shall include an analysis of the effectiveness of the various controls in the written program and implement a plan to minimize the discomfort and maximize the effectiveness of respirator use.

(g) Other relevant information.

(3) The written program shall be submitted, upon request, to the director and shall be available to the director, affected employees, or authorized employee representatives at the worksite for examination and copying.

(4) The program required by this rule shall be revised and updated at least **annually** ~~once every 6 months~~ to reflect the current status of the program.

R 325.51610 Respirators; use.

Rule 610. (1) For employees who use respirators required by these rules, the employer shall **provide each employee an appropriate respirator** ~~respirators that complies~~ ~~comply~~ with the requirements of this rule.

(2) Respirators shall be used during all of the following:

(a) Periods necessary to install or implement feasible engineering or work practice controls.

(b) Work operations, such as maintenance and repair activities, for which the employer establishes that engineering and work practice controls are not feasible.

(c) Work operations for which engineering and work practice controls are not yet sufficient to reduce employee exposures to or below the permissible exposure limit.

(d) Emergencies.

R 325.51611 Respirator program

Rule 611. (1) The employer shall implement a respiratory protection program in accordance with **Occupational Health Standard Part 451 “Respiratory Protection,” as referenced in R 325.51601a, which covers each employee required by these rules to use a respirator.** ~~29 C.F.R. 1910.134(b) to (d) and (f) to (m), except for (d)(1)(iii), as adopted by reference in Michigan Administrative Rule, R 325.50051 et seq.~~

(2) If an employee exhibits breathing difficulty during fit testing or respirator use, then the employee shall be examined by a physician trained in pulmonary medicine to determine whether the employee can use a respirator while performing the required duty.

~~(3) Table 1 reads as follows:~~

TABLE 1
RESPIRATORY PROTECTION FOR INORGANIC ARSENIC PARTICULATE,
EXCEPT FOR THOSE WITH SIGNIFICANT VAPOR PRESSURE

| Concentration of inorganic arsenic (as As) or condition of use | Required respirator |
|--|---|
| (a) Unknown or greater or lesser than 20,000 $\mu\text{g}/\text{m}^3$ (20 mg/m^3) or firefighting | Any full facepiece, self-contained breathing apparatus operated in positive pressure mode. |
| (b) Not greater than 20,000 $\mu\text{g}/\text{m}^3$ (20 mg/m^3) | Supplied air respirator with full facepiece, hood, helmet, or suit and operated in positive pressure mode. |
| (c) Not greater than 10,000 $\mu\text{g}/\text{m}^3$ (10 mg/m^3) | (i) Powered air purifying respirators in all inlet face coverings with high efficiency |

| | |
|---|---|
| | filters. [†] (ii) Half mask, supplied air respirator operated in positive pressure mode. |
| (d) Not greater than 500 µg/m ³ | (i) Full facepiece, air purifying respirator equipped with high—efficiency filter. [†] (ii) Any full facepiece, supplied air respirator. (iii) Any full facepiece, self-contained breathing apparatus. |
| (e) Not greater than 100 µg/m ³ | (i) Half mask, air purifying respirator equipped with high—efficiency filter. [†] (ii) Any half mask, supplied air respirator. |
| [†] High efficiency filter—99.7 per cent efficiency against 0.3 micrometer monodisperse diethyl hexyl phthalate (DOP) particles. | |

(4) Table 2 reads as follows:

TABLE 2
RESPIRATORY PROTECTION FOR INORGANIC ARSENICALS (SUCH AS
ARSENIC
TRICHLORIDE² AND ARSENIC PHOSPHIDE) WITH SIGNIFICANT VAPOR
PRESSURE

| Concentration of inorganic arsenic (as As) or condition of use | Required respirator |
|--|---|
| (a) Unknown or greater or lesser than 20,000 µg/m ³ (20 mg/m ³) or firefighting | Any full facepiece, self-contained breathing apparatus operated in positive pressure mode. |
| (b) Not greater than 20,000 µg/m ³ (20 mg/m ³) | Supplied air respirator with full facepiece, hood, helmet, or suit and operated in positive pressure mode. |
| (c) Not greater than 10,000 µg/m ³ (10 mg/m ³) | Half mask ² , supplied air respirator operated in positive pressure mode. |
| (d) Not greater than 500 µg/m ³ | (i) Front or back-mounted gas mask equipped with high—efficiency filter [†] and acid gas canister. (ii) Any full facepiece supplied air respirator. (iii) Any full facepiece self-contained breathing apparatus. |
| (e) Not greater than 100 µg/m ³ | (i) Half mask ² air purifying respirator equipped with high—efficiency filter [†] and acid gas cartridge. (ii) Any half mask, supplied air respirator. |

¹High efficiency filter – 99.7 pct efficiency against 0.3 micrometer monodisperse diethyl hexyl phthalate (DOP) particles.

²Half mask respirators shall not be used for protection against arsenic trichloride, as it is rapidly absorbed through the skin.

(5) The employer shall use table 1 of this rule to select the appropriate respirator or combination of respirators for inorganic arsenic compounds without significant vapor pressure, and the employer shall use table 2 of this rule to select the appropriate respirators for inorganic arsenic compounds that have significant vapor pressure.

(6) If employee exposures exceed the permissible exposure limit for inorganic arsenic and also exceed the relevant limit for other gases, such as sulfur dioxide, then an air purifying respirator provided to the employee as specified by this rule shall have a combination high efficiency filter with an appropriate gas sorbent. (See footnote in table 1 of this section).

(7) Employees required to use respirators may choose, and the employer shall provide, a powered air purifying respirator if the powered air purifying respirator will provide proper protection. In addition, the employer shall provide a combination dust and acid gas respirator to employees who are exposed to gases over the relevant exposure limits.

R 325.51611a Respirator selection.

Rule 611a. (1) An employer shall do all of the following:

(a) Select, and provide to employees, the appropriate respirators in accordance with Occupational Health Standard Part 451 “Respiratory Protection,” as referenced in in R 325.51601a.

(b) Ensure that employees do not use half mask respirators for protection against arsenic trichloride because it is absorbed rapidly through the skin.

(c) Provide HEPA filters for powered and non-powered air-purifying respirators

(d) Select for employee use both of the following:

(i) Air-purifying respirators that have a combination HEPA filter with an appropriate gas-sorbent cartridge or canister when the employee's exposure exceeds the permissible exposure level for inorganic arsenic and the relevant limit for other gases.

(ii) Front-or back-mounted gas masks equipped with HEPA filters and acid gas canisters or any full facepiece supplied-air respirators when the inorganic arsenic concentration is at or below 500 mg/m³; and half mask air-purifying respirators equipped with HEPA filters and acid gas cartridges when the inorganic arsenic concentration is at or below 100 µg/m³.

(2) Employees required to use respirators may choose, and the employer shall provide, a powered air-purifying respirator if it will provide proper protection. In addition, the employer shall provide a combination dust and acid-gas respirator to employees who are exposed to gases over the relevant exposure limits.

R 325.51614 Protective work clothing and equipment; provision and use; cleaning and replacement; notice to cleaning or laundering persons of the potentially harmful effects of exposure to inorganic arsenic.

Rule 614. (1) If the possibility of skin or eye irritation from inorganic arsenic exists, and for all employees working in a regulated area, an employer shall provide, at no cost to the employee, and shall assure that employees use, appropriate and clean protective work clothing and equipment, such as the following:

(a) Coveralls or similar full-body work clothing.

(b) Gloves and shoes or coverlets.

(c) Face shields or vented goggles if necessary to prevent eye irritation. Such shields or goggles shall comply with **General Industry Safety Standard Part 33 “Personal Protective Equipment,” as referenced in R 325.50601a.**

~~R 408.13311 to R 408.13313 and R 408.13340 to R 408.13369 of the Michigan Administrative Code, which are administered and enforced by the Michigan department of consumer and industry services.~~

(d) Impervious clothing for employees who are subject to exposure to arsenic trichloride.

(2) An employer shall provide the protective clothing that is required in subrule (1) of this rule in a freshly laundered and dry condition at least once each week. If an employee works in an area where the exposure to inorganic arsenic is over 100 micrograms per cubic meter (100 ug/m³) or in an area where more frequent washing is needed to prevent skin irritation, then the protective clothing shall be laundered daily.

(3) An employer shall clean, launder, or dispose of protective clothing that is required by subrule (1) of this rule.

(4) An employer shall repair or replace the protective clothing and equipment as necessary to maintain the effectiveness of the protective clothing and equipment.

(5) At the completion of a work shift, an employer shall assure that all protective clothing is removed only in change rooms prescribed in R 325.51616(1).

(6) An employer shall assure that contaminated protective clothing which is to be cleaned, laundered, or disposed of is placed in a closed container in the change room in a manner that prevents the dispersion of inorganic arsenic outside the container.

(7) An employer shall inform, in writing, any person who cleans or launders clothing that is required by this rule of the potentially harmful effect, including the carcinogenic effects, of exposure to inorganic arsenic.

~~(8) An employer shall assure that the containers of contaminated protective clothing and equipment which are in the workplace or which are to be removed from the workplace are labeled as follows: CAUTION: Clothing contaminated with inorganic arsenic; do not remove dust by blowing or shaking. Dispose of inorganic arsenic contaminated wash water pursuant to applicable local, state, or federal regulations.~~

~~(9) An employer shall prohibit the removal of inorganic arsenic from protective clothing or equipment by blowing or shaking.~~

R 325.51614a Labels on contaminated protective clothing and equipment.

Rule 614a.(1) The employer shall ensure that the containers of contaminated protective clothing and equipment in the workplace or which are to be removed from the workplace are labeled and that the labels include the following information:

| |
|--|
| <p>DANGER: CONTAMINATED WITH INORGANIC ARSENIC. MAY CAUSE CANCER. DO NOT REMOVE DUST BY BLOWING OR SHAKING. DISPOSE OF INORGANIC ARSENIC CONTAMINATED WASH WATER IN ACCORDANCE WITH APPLICABLE LOCAL, STATE OR FEDERAL REGULATIONS.</p> |
|--|

(2) Prior to June 1, 2015, employers may include the following information on containers of protective clothing and equipment in lieu of the labeling requirements in subrule (1) of this rule:

| |
|--|
| <p>CAUTION: Clothing contaminated with inorganic arsenic; do not remove dust by</p> |
|--|

blowing or shaking. Dispose of inorganic arsenic contaminated wash water in accordance with applicable local State or Federal regulations.

(3) The employer shall prohibit the removal of inorganic arsenic from protective clothing or equipment by blowing or shaking.

R 325.51616 Hygiene facilities and practices; change rooms; showers; lavatories; lunchrooms.

Rule 616. (1) For employees who work in a regulated area or who are subject to the possibility of skin or eye irritation from inorganic arsenic, an employer shall provide clean change rooms equipped with storage facilities for street clothes and separate storage facilities for protective clothing equipment pursuant to **Occupational Health Standard Part 474 “Sanitation,” as referenced in R 325.50601a.** ~~O.H. rule 4201(5) Sanitation.~~

(2) An employer shall provide shower facilities pursuant to **Occupational Health Standard Part 474 “Sanitation,” as referenced in R 325.50601a,** ~~O.H. rule 4201(4)(e) Sanitation,~~ and shall assure that an employee who works in a regulated area or who is subject to the possibility of skin or eye irritation from inorganic arsenic showers at the end of the work shift.

(3) For employees who work in a regulated area, an employer shall provide lunchroom facilities which have temperature-controlled, positive pressure, filtered air supplies and which are readily accessible to employees who work in a regulated area.

(4) An employer shall provide lavatory facilities which comply with **Occupational Health Standard Part 474 “Sanitation,” as referenced in R 325.50601a,** ~~O.H. rule 4201(4)(a) and (b) Sanitation,~~ and shall assure that an employee who works in the regulated area or who is subject to the possibility of skin or eye irritation from exposure to inorganic arsenic washes his or her hands and face before eating.

(5) For an employee who works in an area where exposure to inorganic arsenic, without regard to the use of respirators, exceeds 100 micrograms per cubic meter (100 ug/m³), an employer shall provide facilities to vacuum his or her protective clothing and to clean or change shoes worn in such areas before entering change rooms, lunchrooms, or shower rooms and shall assure their use.

(6) If engineering controls and work practices currently reduce exposures below the permissible exposure limit for affected employees, then change room, shower, lavatory, and lunchroom facilities need not be completed until December 31, 1980.

R 325.51618 Medical surveillance program; initial examinations.

Rule 618. (1) Within 60 days after the effective date of these rules, an employer shall provide an opportunity for an initial medical examination, if not already provided, to an employee who is covered by the medical provisions of these rules.

(2) An employer shall provide an opportunity for an initial medical examination at the time of the first assignment to an area where the employee is likely to be exposed to more than the action level of inorganic arsenic for not less than 30 days per year.

(3) The initial medical examination shall include all of the following elements:

(a) A work history and a medical history that shall include a smoking history and the presence and degree of respiratory symptoms, such as breathlessness, cough, sputum production, and wheezing.

(b) A **standard posterior-anterior chest x-ray.** ~~14 inch by 17 inch posterior anterior chest X-ray and the international labor office UICC/Cincinnati (ILO U/C) rating.~~

(c) A nasal and skin examination.

(d) Other examinations that the physician believes are appropriate because of the employee's exposure to inorganic arsenic or because of required respirator use.

R 325.51619 Medical surveillance program; periodic examination.

Rule 619. (1) An employer shall provide the examinations specified in **these rules at least annually**. ~~R 325.51618(3)(a) to (d) at least once a year for a covered employee who is under 45 years of age and who has less than 10 years of exposure to inorganic arsenic above the action level, without regard to respirator use.~~

~~(2) An employer shall provide a medical examination as specified in R 325.51618(3)(a), (c), and (d) at least semiannually and the X ray requirement specified in R 325.51618(3)(b) at least annually for other covered employees.~~

~~(2)(3)~~ If a covered employee has not taken the examination specified in R 325.51618(3) within 6 months before the termination of employment, then the employer shall provide the examination to the employee upon termination of employment.

~~(3)(4)~~ If for any reason an employee develops signs or symptoms commonly associated with exposure to inorganic arsenic, then the employer shall provide an appropriate examination and emergency medical treatment.

R 325.51622 Employee information and training program; applicability; provision of information to employees; availability of rules and other materials to employees and director.

Rule 622. (1) An employer shall institute a training program for all employees who are subject to exposure to inorganic arsenic above the action level, without regard to respirator use, or for whom there is the possibility of skin or eye irritation from inorganic ~~arsenic~~. **arsenic in accordance with the requirements of these rules.** An employer shall assure that these employees participate in the training program.

(2) The training program shall be provided at the time of initial assignment for employees specified in subrule (1) of this rule and at least annually thereafter.

(3) An employer shall assure that each employee is informed of all of the following:

(a) The information contained in appendix A to these rules.

(b) The quantity, location, and manner of use or storage of arsenic materials, sources of exposure, and the specific nature of operations that could result in exposure to inorganic arsenic, as well as any necessary protective steps.

(c) The purpose, proper use, and limitation of respirators.

(d) The purpose and a description of the medical surveillance program as required by R 325.51617 to R 325.51621 .

(e) The engineering controls and work practices that are associated with the employee's job assignment.

(f) These rules, which the employer shall review.

(4) An employer shall make a copy of these rules and their appendices readily available to all affected employees.

(5) Upon request, an employer shall provide, to the director, all materials that relate to the employee information and training program.

R 325.51623 **Rescinded.** ~~Warning signs and labels; employer responsibilities.~~

~~Rule 623. (1) An employer shall post signs which bear the following legend to demarcate regulated areas:~~

~~DANGER INORGANIC ARSENIC CANCER HAZARD~~

~~AUTHORIZED PERSONNEL ONLY~~

~~NO SMOKING OR EATING RESPIRATOR REQUIRED~~

~~(2) An employer shall assure that signs required by this rule are illuminated and cleaned as necessary so that the legend is readily visible.~~

~~(3) An employer shall apply precautionary labels to all shipping and storage containers of inorganic arsenic and to all products containing inorganic arsenic, except when the inorganic arsenic in the product is bound in such a manner so as to make the possibility of airborne exposure to inorganic arsenic unlikely. Possible examples of products that do not require labels are semiconductors, light emitting diodes, and glass. The labels shall bear the following legend:~~

~~DANGER CONTAINS INORGANIC ARSENIC CANCER HAZARD~~

~~HARMFUL IF INHALED OR SWALLOWED~~

~~USE ONLY WITH ADEQUATE VENTILATION OR RESPIRATORY PROTECTION~~

~~(4) An employer shall assure that statements do not appear on or near any sign or label required by this rule which contradict or detract from the meaning of the required sign or label.~~

~~(5) An employer may use labels or signs required by other statutes, rules, or ordinances in addition to, or in combination with, signs and labels required by this rule.~~

HAZARD COMMUNICATIONS

R 325.51623a Communication of hazards.

Rule 623a. (1) Chemical manufacturers, importers, distributors and employers shall comply with Occupational Health Part 430, “Hazard Communication,” as referenced in R 325.51601a, for inorganic arsenic.

(2) In classifying the hazards of inorganic arsenic, the employer shall address at least all of the following hazards:

(a) Cancer.

(b) Liver effects.

(c) Skin effects.

(d) Respiratory irritation.

(e) Nervous system effects.

(f) Acute toxicity effects.

(3) Employers shall include inorganic arsenic in the hazard communication program established to comply with the Occupational Health Part 430, “Hazard Communication.” Employers shall ensure that each employee has access to labels on containers of inorganic arsenic and to safety data sheets, and is trained in accordance with the requirements of R 325.51622 and Occupational Health Part 430, “Hazard Communication,” as referenced in R 325.51601a,

(4) The employer shall ensure that no statement appears on or near any sign or label required by this rule which contradicts or detracts from the meaning of the required sign or label.

R 325.51623b Communication of hazards, signs.

Rule 623b. (1) The employer shall post signs demarcating regulated areas bearing the following legend:

| |
|---|
| <p style="text-align: center;">DANGER INORGANIC ARSENIC MAY CAUSE CANCER DO NOT EAT, DRINK OR SMOKE WEAR RESPIRATORY PROTECTION IN THIS AREA AUTHORIZED PERSONNEL ONLY</p> |
|---|

(2) Prior to June 1, 2016, employers may use the following legend in lieu of that specified in subrule (1) of this rule.

**DANGER
INORGANIC ARSENIC
CANCER HAZARD AUTHORIZED PERSONNEL ONLY
NO SMOKING OR EATING
RESPIRATOR REQUIRED**

(3) The employer shall ensure that signs required by these rules are illuminated and cleaned as necessary so that the legend is readily visible.

(4) Prior to June 1, 2015, in lieu of the labeling requirements in R 325.51623a, employers may apply precautionary labels to all shipping and storage containers of inorganic arsenic, and to all products containing inorganic arsenic, bearing the following legend:

**DANGER
CONTAINS INORGANIC ARSENIC
CANCER HAZARD HARMFUL IF INHALED OR SWALLOWED
USE ONLY WITH ADEQUATE VENTILATION OR RESPIRATORY
PROTECTION**

(5) Labels are not required when the inorganic arsenic in the product is bound in such a manner so as to make unlikely the possibility of airborne exposure to inorganic arsenic. Possible examples of products not requiring labels are semiconductors, light emitting diodes, and glass.

R 325.51624 Monitoring and medical surveillance records; maintenance.

Rule 624. (1) An employer shall establish and maintain an accurate record of all monitoring required by R 325.51605 and R 325.51606, including all of the following:

- (a) The date, duration, location, and results of each sample taken, including, where applicable, a description of the sampling procedure used to determine representative employee exposure.
 - (b) A description of the sampling and analytical methods used and evidence of their accuracy.
 - (c) The type of respiratory protective devices worn, if any.
 - (d) Names, social security numbers, and job classifications of the employees monitored and of all other employees whose exposure the measurement is intended to represent.
 - (e) The environmental variables that could affect the measurement of the employee's exposure.
- (2) An employer shall maintain the monitoring records for not less than 40 years or for the duration of employment plus 20 years, whichever period is longer.
- (3) An employer shall establish and maintain an accurate record for each employee who is subject to medical surveillance as required by R 325.51617 to R 325.51621, including all of the following:
- (a) The name, social security number, and description of duties of the employee.
 - (b) A copy of the physician's written opinion.
 - (c) Results of any exposure monitoring done for that employee and the representative exposure levels supplied to the physician.
 - (d) Any employee medical complaints related to exposure to inorganic arsenic.
- (4) An employer shall keep, or assure that the examining physician keeps, the following medical records:
- (a) A copy of the medical examination results, including medical and work histories required by R 325.51617 to R 325.51621.
 - (b) A description of the laboratory procedures and a copy of any standards or guidelines used to

interpret the test results or references to that information.

(c) The initial X-ray.

(d) The X-rays for the most recent 5 years.

(e) Any X-ray film with a demonstrated abnormality and all subsequent X-ray films.

~~(f) The initial cytologic examination slide and written description.~~

~~(g) The cytologic examination slides and written descriptions for the most recent 5 years.~~

~~(h) Any cytologic examination slides with demonstrated atypia, if such atypia persists for 3 years, and all subsequent slides and written descriptions.~~

(5) An employer shall maintain, or assure that the physician maintains, the medical records for not less than 40 years or for the duration of employment plus 20 years, whichever period is longer.

R 325.51625 Availability of records.

Rule 625. (1) Upon request, an employer shall make all records that are required to be maintained pursuant to ~~the provisions of~~ R 325.51624 available to the director for examination and copying.

(2) Upon request, an employer shall make all records that are required pursuant to the provisions of R 325.51624 available to affected employees, former employees, and their designated representatives in accordance with the provisions of **Occupational Health Standard Part 470, "Employee Medical Records and Trade Secrets," as referenced in R 325.50601a.** ~~R 325.3451 et seq.~~

R 325.51626 Retention and **transfer of records.** ~~disposal of records; successor employer; transmittal and notice to director.~~

Rule 626. (1) If an employer ceases to do business, the successor employer shall receive and retain all records that are required to be maintained by these rules.

~~(2) If an employer ceases to do business and there is no successor employer to receive and retain the records that are required to be maintained by these rules for the prescribed period, the records shall be transmitted to the director.~~

~~(3) At the expiration of the retention period for the records that are required to be maintained by these rules, an employer shall notify the director not less than 3 months before the disposal of the records and shall transmit those records to the director if requested within that period.~~

(2) The employer shall also comply with any additional requirements involving the transfer of records set in Occupational Health Standard Part 470, "Employee Medical Records and Trade Secrets," as referenced in R 325.50601a.

R 325.51628 **Rescinded.** ~~Availability of rules and appendices; permission to reproduce.~~

~~Rule 628. (1) A copy of these rules and related appendices, which are titled "Appendix A—Substance Information Sheet," "Appendix B—Substance Technical Information," and "Appendix C—Medical Surveillance Information," are available to affected employers and employees at no cost from the Michigan Department of Consumer and Industry Services, Standards Division, P.O. Box 30643, Lansing, Michigan 48909.~~

~~(2) Permission to reproduce any of these documents in full is granted by the director.~~

~~(3) The information contained in the appendices to this section is not intended by itself to create any additional obligations not otherwise imposed by this standard nor detract from any existing obligation.~~

PROPOSED ADMINISTRATIVE RULES

**DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS ~~CONSUMER AND INDUSTRY~~
SERVICES**

DIRECTOR'S OFFICE ~~BUREAU OF SAFETY AND REGULATION~~

GENERAL INDUSTRY SAFETY STANDARDS ~~COMMISSION~~

Proposed Draft August 14, 2013

Filed with the Secretary of State on

These rules become effective immediately upon filing with the Secretary of State unless adopted under section 33, 44, or 45a(6) of 1969 PA 306.

Rules adopted under these sections become effective 7 days after filing with the Secretary of State.

(By authority conferred on the **director of the department of licensing and regulatory affairs** ~~general industry safety standards commission~~ by sections 16 and 21 of ~~1974 PA Act No. 154, MCL 408.1016 and MCL 408.1021, and Executive Reorganization Order Nos. 1996-2, 2003-1, 2008-4, and 2011-4, MCL 445.2001, 445.2011, 445.2025, and 445.2030~~ of the Public Acts of 1974, as amended, being ~~SS408.1016 and 408.1021 of the Michigan Compiled Laws~~)

R 408.13701, R 408.13703, R 408.13704, R 408.13707, R 408.13711, R 408.13714, R 408.13721, R 408.13731, R 408.13733, and R 408.13734 of the Michigan Administrative Code are amended and R 408.13705 R 408.13723, R 408.13724, R 408.13731a, R 408.13734a, R 408.13737 and R 408.13738 are added, and Occupational Health Standard Rule 4501 is rescinded as follows:

PART 37. ACCIDENT PREVENTION SIGNS AND TAGS

GENERAL PROVISIONS

R 408.13701 Scope.

Rule 3701. **(1)** This part provides specifications for the design, application, and use of signs or symbols and tags to define or signal a specific hazard in, around or about a place of employment where the failure to designate ~~the a hazard could lead to an injury.~~ **could harm workers or the public, or both, or to property damage.** This part does not apply to public air navigation, railroads, streets, highways, marine operations, radiation, and biological hazards.

(2) These specifications are intended to cover all safety signs except those designed for streets, highways, and railroads. These specifications do not apply to plant bulletin boards or to safety posters.

(3) All new signs and replacements of old signs shall be in accordance with these specifications.

R 408.13703 Definitions; A to D.

Rule 3703. (1) “Accident prevention sign” means the surface on which letters or markings are used to warn of a hazard, provide safety instructions, or provide directions. An accident prevention sign may be temporarily or permanently affixed or placed.

(2) “Accident prevention tag” means the surface on which letters or markings are used to warn of an existing or immediate hazard and which is temporarily attached to a part of equipment or structure.

(3) "Biological hazard" or "BIOHAZARD" means those infectious agents presenting a risk of death, injury, or illness to employees.

~~(4)(3)~~ “Caution sign or tag” means a sign or tag used to warn of a potential hazard or to warn against an unsafe practice.

~~(5)(4)~~ “Danger sign or tag” means a sign or tag used to signal an immediate hazard.

~~(6)(5)~~ “Do not start tag” means a tag used to tag out a starting mechanism which would cause a hazard if started.

R 408.13704 Definitions; E to S.

Rule 3704. (1) “Exit sign” means a sign used to designate a point of discharge from a room or building.

(2) “In-plant traffic sign” means a sign used to direct the safe use of a vehicle on plant property.

(3) "Major message" means that portion of a tag's inscription that is more specific than the signal word and that indicates the specific hazardous condition or the instruction to be communicated to the employee. Examples include: "High Voltage," "Close Clearance," "Do Not Start," or "Do Not Use" or a corresponding pictograph used with a written text or alone.

~~(4)(3)~~ “Out of order tag” means a tag used to indicate a machine is malfunctioning and its use might create a hazard.

(5) "Pictograph" means a pictorial representation used to identify a hazardous condition or to convey a safety instruction.

~~(6)(4)~~ “Plant thoroughfare” means the company streets on plant property.

~~(7)(5)~~ “Safety instruction sign” means a sign used for general instruction or suggestion relative to safety.

(8) "Sign" refers to a surface as prepared for the warning of, or safety instructions of, industrial workers or members of the public who may be exposed to hazards. “Sign” does not mean news releases, displays commonly known as safety posters, or bulletins used for employee education.

(9) "Signal word" means that portion of a tag's inscription that contains the word or words that are intended to capture the employee's immediate attention.

(10) "Tag" means a device usually made of card, paper, pasteboard, plastic, or other material used to identify a hazardous condition.

R 408.13705 Adoption of standards by reference; access to other MIOSHA rules.

Rule 3705. (1) This standard is adopted by reference in these rules, American National Standard Institute Standard ANSI Z53.1, “USA Standard Safety Color Code for Marking Physical Hazards,” 1971 edition, and is available from IHS Global, 15 Inverness Way East, Englewood, Colorado, 80112, USA, telephone number: 1-800-854-7179 or via the internet at website:

<http://global.ihs.com>; at a cost as of the time of adoption of these rules of \$20.00.

~~(2) The following standards are adopted by reference in these rules and are available from the American Society of Agricultural and Biological Engineers (ASABE), 2950 Niles Road, St. Joseph, Michigan 49085. Phone: (269) 429-0300 or via the internet at website: <http://www.asabe.org/>, at a cost as of the time of adoption of these rules, as stated in this subrule.~~

~~(a) American Society of Agricultural Engineers Standard ASAE R276, “Emblem for Identifying Slow-Moving Vehicles,” 1966 edition. Cost: \$80.00.~~

~~(b) ASAE S276.2 “Slow-Moving Vehicle Identification Emblem,” 1968 edition. Cost: \$80.00.~~

(3) The standards adopted in subrules (1) and (2) of this rule are also available for inspection at the Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143.

(4) Copies of the standards adopted in subrules (1) and (2) of this rule may be obtained from the publisher or may also be obtained from the Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143, at the cost charged in this rule, plus \$20.00 for shipping and handling.

(5) The General Industry Safety Standard Part 6 “Fire Exits,” R 408.10601 to R 408.10698, is referenced in these rules. Up to 5 copies of this standard may be obtained at no charge from the Michigan Department of licensing and regulatory affairs, MIOSHA standards section, 7150 Harris Drive, P.O. Box 30643, Lansing, MI, 48909-8143 or via the internet at website: www.michigan.gov/mioshastandards. For quantities greater than 5, the cost, at the time of adoption of these rules, is 4 cents per page.

R 408.13707 Signs generally.

Rule 3707. ~~(1) The type or design of a sign shall be as specified in this part. Safety instruction, directional, and in-plant traffic signs in use before December 13, 1974 are excepted from the requirements of this part.~~

~~(1)(2)~~ **All signs shall be furnished with rounded or blunt corners and shall be free of sharp edges, burrs, splinters, or other sharp projections. The ends or heads of bolts or other fastening devices shall be located in such a way that they do not constitute create a hazard.**

~~(2)(3)~~ **Danger signs. The colors red, black, and white shall be those of opaque glossy samples as specified prescribed in table 1 “Fundamental Specification of Safety Colors for CIE Standard Source "C",” in American National Standard Institute ANSI standard Z53.1, “USA Standard Safety Color Code for Marking Physical Hazards,” 1971 edition, as adopted in R 408.13705. of ANSI standard, Z53.1 1971, safety color code, which is adopted herein by reference and is available for inspection at the Lansing office of the Department of Consumer and Industry Services. This standard may be purchased at a cost of \$3.00 from the American National Standards Institute, 1430 Broadway, New York, New York 10018, or from the Michigan Department of Consumer and Industry Services, 7150 Harris Drive, Box 30643, Lansing, Michigan 48909.**

(3) Caution signs. Standard color of the background shall be yellow; and the panel, black with yellow letters. Any letters used against the yellow background shall be black. The colors shall be those of opaque glossy samples as specified in Table 1 in ANSI Z53.1, 1971 edition, as adopted in R 408.13705.

(4) Safety instruction signs. Standard color of the background shall be white; and the panel, green with white letters. Any letters used against the white background shall be black. The colors shall be those of opaque glossy samples as specified in Table 1 in ANSI Z53.1, 1971 edition, as adopted in R 408.13705.

CLASSIFICATION OF SIGNS

R 408.13711 Danger signs.

Rule 3711. (1) A danger sign shall be used only where an immediate hazard exists. The sign shall be removed when the hazard is removed.

(2) A danger sign shall have the signal word “danger” in white within a red oval outlined in white on a black rectangular background in the upper panel. The lower panel where additional wording may be used shall be black or red letters on a white background. (See figure 1.)

(3) Danger signs shall have no variation in the type of design of signs posted to warn of specific dangers and radiation hazards.

~~(4)(3)~~ An employee shall be instructed that a danger sign indicates immediate danger and that special precautions are necessary.

~~(5)(4)~~ Figure 1 reads as follows:

**Figure 1
Danger Sign**



R 408.13714 Exit signs.

Rule 3714. (1) An exit sign shall be used as prescribed in subrule (3) of **R 408.10685** ~~rule 685~~ and **R 408.10686** ~~rule 686~~ of the General Industry Safety standards commission Standard Part 6 “Fire Exits,” as referenced in **R 408.13705**, being ~~R 408.10685(3) and R 408.10686 of the Michigan Administrative Code, which is available from the Michigan Department of Consumer and Industry Services, 7150 Harris Drive, Box 30643, Lansing, Michigan 48909.~~

(2) An exit sign installed after December 13, 1974 shall consist of red or white letters on a contrasting red or white field. An internally illuminated sign shall consist of translucent letters either red or white on a contrasting background of red or white. The background may be either opaque or translucent.

(3) A directional arrow used on an exit sign shall be the same color as the word “exit.”

SYMBOLS

R 408.13721 Emblem for slow-moving vehicles.

Rule 3721. (1) An emblem, as prescribed in figure 3, shall be used on the rear of a vehicle used on a public road which, by design, moves at 25 miles per hour or less outside a building.

~~(2) An Such an~~ emblem, **described in subrule (1) of this rule**, shall not be used as a clearance marker for wide machinery or as a replacement for required lighting.

(3) Advertising or other markings shall not be placed on it the emblem.

~~(4)(2)~~ This **slow-moving vehicle** emblem shall consist of a fluorescent yellow-orange triangle with a dark red reflective border. (See figure 3.)

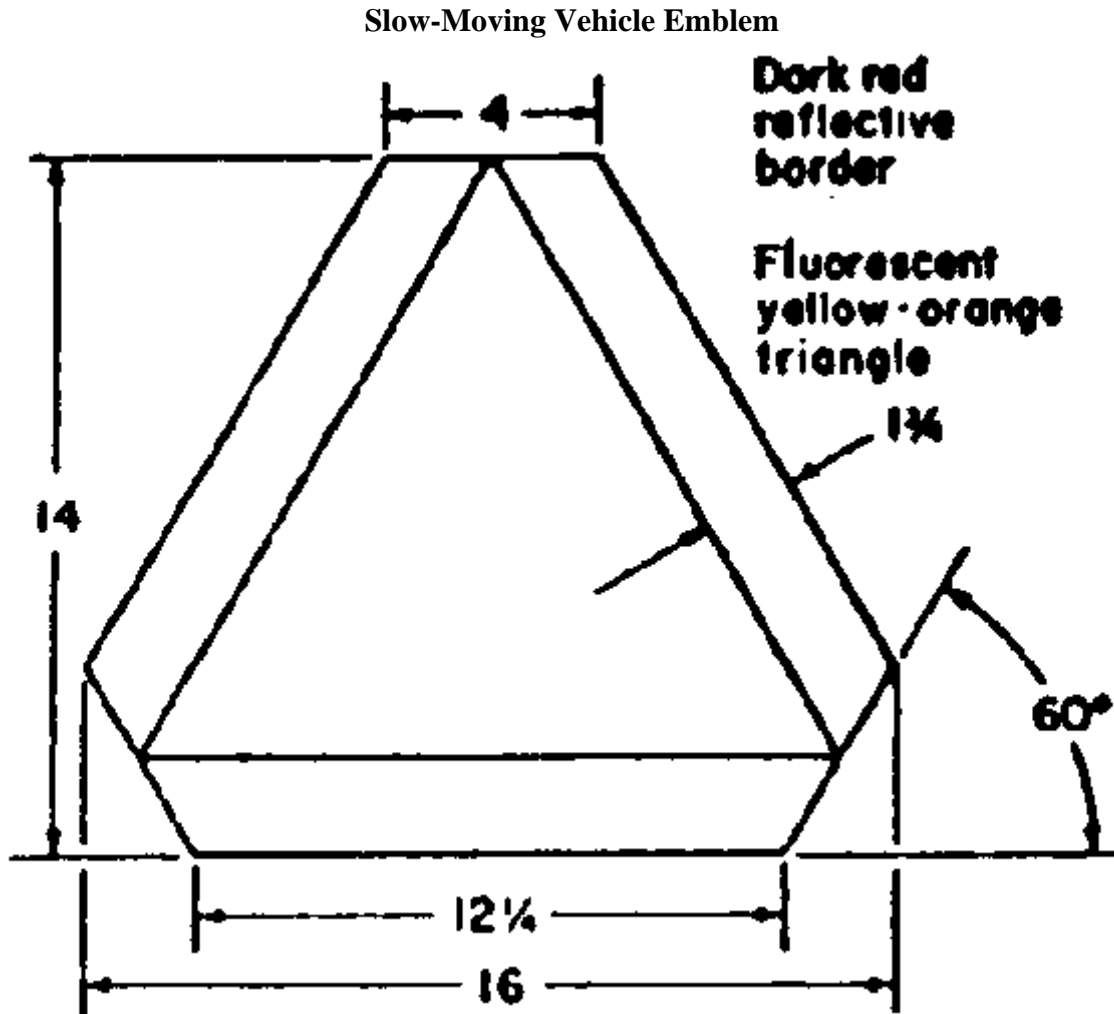
It shall be entirely visible in daylight and at night from all distances between 600 and 100 feet from the rear when directly in front of the lawful upper beam of the headlamps.

~~(5)(3)~~ The emblem shall be mounted, point up, in a plane perpendicular to the direction of travel, plus or minus 10 degrees. It shall be placed centrally at the rear of the vehicle, unobscured, and 2 to 6 feet above the ground measured from the lower edge of the emblem. It shall be securely attached to the vehicle.

(6) The material, location, mounting, and other elements, of the emblem shall be in accordance with the American Society of Agricultural Engineers Standard ASAE R276, “Emblem for

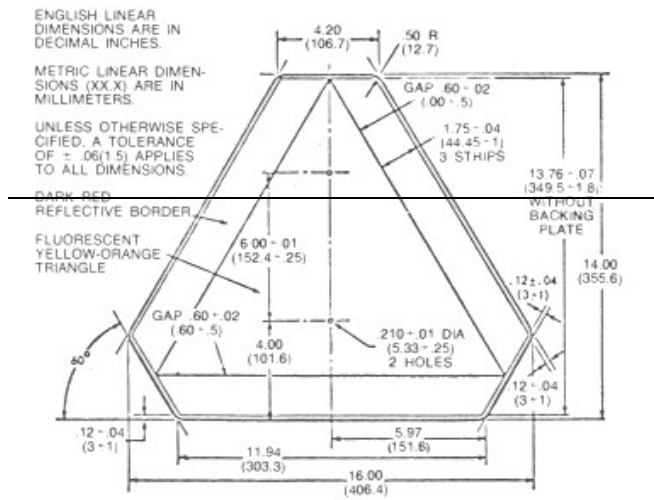
Identifying Slow-Moving Vehicles,” 1966 edition or ASAE S276.2 “Slow-Moving Vehicle Identification Emblem,” 1968 edition, as adopted in R 408.13705. The requirements for color and reflectivity, durability, and test procedures shall be as prescribed in SAE J493, slow moving vehicle identification emblem, which is adopted herein by reference and is available for inspection at the Lansing office of the Department of Consumer and Industry Services. This standard may be purchased at a cost of \$1.50 from the Society of Automotive Engineers, Inc., 2 Penn Plaza, New York, New York 10001, or from the Michigan Department of Consumer Industry Services, 7150 Harris Drive, Box 30643, Lansing, Michigan 48909.

(7)(5) Figure 3 reads as follows:



Note: All dimensions are in inches.

Figure 3
Identification Emblem



R 408.13723 Sign wordings.

Rule 3723. (1) The wording of any sign shall be easily read and concise. The sign shall contain sufficient information to be easily understood. The wording shall make a positive, rather than negative suggestion and shall be accurate in fact.

(2) The biological hazard warning signs shall be used to signify the actual or potential presence of a biohazard and to identify equipment, containers, rooms, materials, experimental animals, or combinations thereof, which contain, or are contaminated with, viable hazardous agents.

Note: For the purpose of this rule the term "biological hazard," or "biohazard," shall include only those infectious agents presenting a risk or potential risk to the well-being of man.

R 408.13724 Accident prevention tags.

Rule 3724. (1) These rules apply to all accident prevention tags used to identify hazardous conditions and provide a message to employees with respect to hazardous conditions, as set forth in R 408.13731, or to meet the specific tagging requirements of other Michigan Occupational Safety and Health Administration (MIOSHA) standards.

(2) This rule does not apply to construction or agriculture.

TAGS

R 408.13731 Tags generally.

Rule 3731. (1) An accident prevention tag shall be used as a temporary means of warning an employee of an existing hazard, such as defective tools or equipment.

A tag shall not be used in place of an accident prevention sign or considered a complete warning method.

(2) A tag shall be affixed by string, wire, or adhesive.

(3) A tag shall be large enough to attract attention to the hazard, with the minimum letter size for the signal word in perspective to a safe viewing distance in accordance with R 408.13708.

- (4) The signal word shall be in bolt type.
- (5) There ~~shall should~~ be no variation in the type of design of tags posted or hung to warn of a specific hazard.
- (6) A tag shall be protected or be of such material to last and maintain legibility during the assignment of the tag.
- (7) **Tags shall be used as a means to prevent accidental injury or illness to employees who are exposed to hazardous or potentially hazardous conditions, equipment, or operations and which are out of the ordinary, unexpected, or not readily apparent.**
- (8) **Tags shall be used until such time as the identified hazard is eliminated or the hazardous operation is completed.**
- (9) **Tags need not be used where signs, guarding, or other positive means of protection are being used.**

R 408.13731a General tag criteria.

Rule 3731a. All required tags shall meet the following criteria:

- (a) Tags shall contain a signal word and a major message, like any of the following:**
 - (i) The signal word shall be either "Danger," "Caution," "Biological Hazard," "BIOHAZARD," or the biological hazard symbol.**
 - (ii) The major message shall indicate the specific hazardous condition or the instruction to be communicated to the employee.**
- (b) The signal word shall be readable at a minimum distance of five feet (1.52 m) or such greater distance as warranted by the hazard.**
- (c) The tag's major message shall be presented in either pictographs or written text, or both.**
- (d) The signal word and the major message shall be understandable to all employees who may be exposed to the identified hazard.**
- (e) All employees shall be informed as to the meaning of the various tags used throughout the workplace and what special precautions are necessary.**
- (f) Tags shall be affixed as close as is safely possible to their respective hazards by a positive means such as string, wire, or adhesive that prevents their loss or unintentional removal.**

R 408.13733. "Danger" tags.

Rule 3733. A "danger" tag shall be placed where an immediate hazard or probability of injury exists. ~~used only in major hazard situations where an immediate hazard presents a threat of death or serious injury to employees.~~

R 408.13734 "Caution" tags.

Rule 3734. A "caution" tag shall be used to warn of a potential hazard or to caution against an unsafe practice. ~~only in minor hazard situations where a non-immediate or potential hazard or unsafe practice presents a lesser threat of employee injury.~~

R 408.13734a. Warning tags.

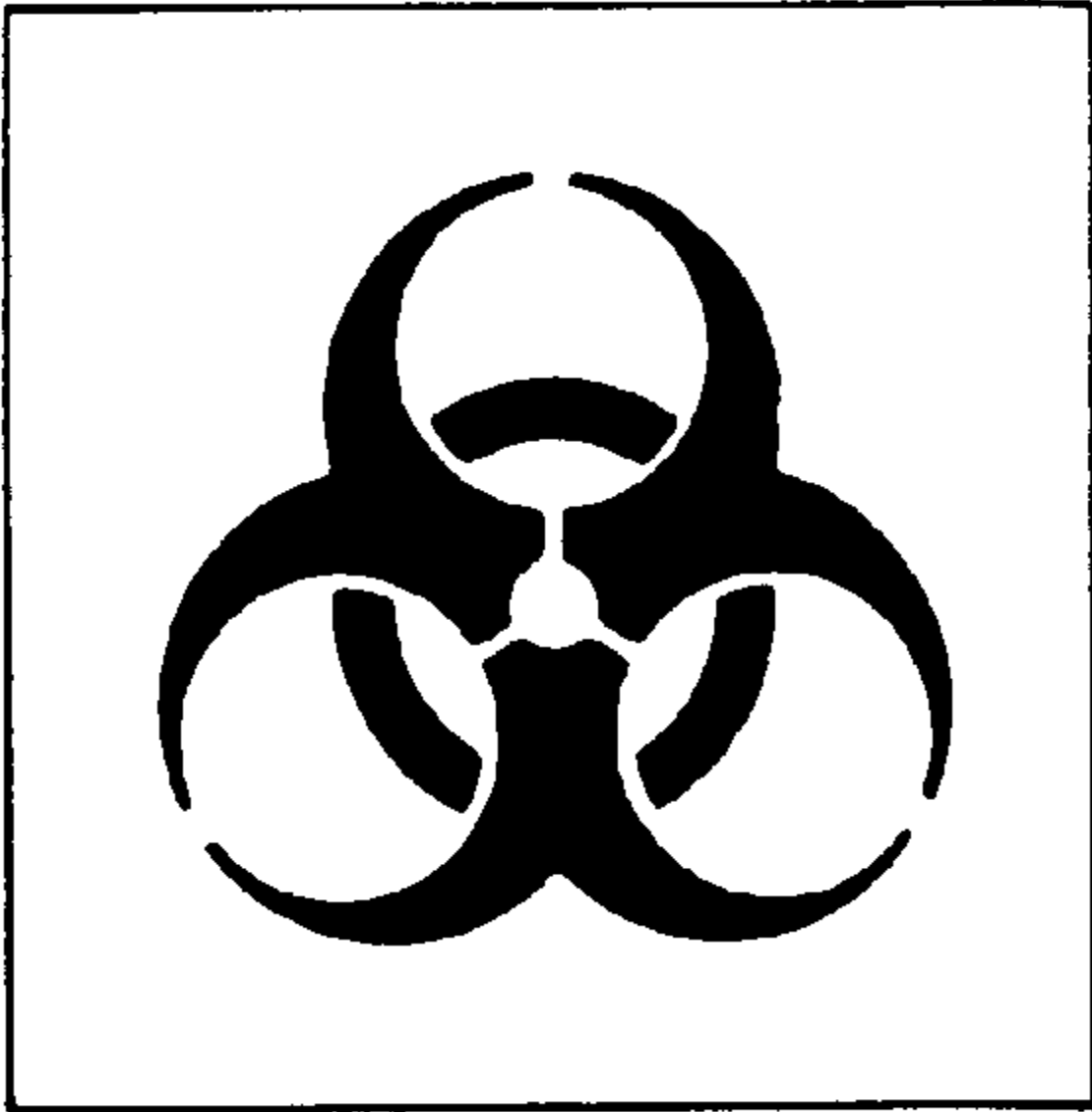
Rule 3734a. Warning tags may be used to represent a hazard level between "Caution" and "Danger," instead of the required "Caution" tag, provided that they have a signal word of "Warning," an appropriate major message, and otherwise meet the general tag criteria of R 408.13731a.

R 408.13737 Biological hazard tags.

Rule 3737. (1) Biological hazard tags shall be used to identify the actual or potential presence of a biological hazard and to identify equipment, containers, rooms, experimental animals, or combinations thereof that contain or are contaminated with hazardous biological agents.

(2) The symbol design for biological hazard tags shall conform to the design shown below in Figure 2:

**FIGURE 2
BIOLOGICAL HAZARD SYMBOL CONFIGURATION**



R 408.13738 Other tags.

Rule 13738. Other tags may be used in addition to those required by these rules or in other situations where these rules do not require tags, provided that they do not detract from the impact or visibility of the signal word and major message of any required tag.

Rule 4501 Rescinded. Specifications for Accident Prevention Signs and Tags

–(1) Scope.

~~–(a) These specifications apply to the design, application, and use of signs or symbols (as included in subsections (3) through (4) of this rule) intended to indicate and, insofar as possible, to define specific hazards of a nature such that failure to designate them may lead to accidental injury to workers or the public, or both, or to property damage. These specifications are intended to cover all safety signs except those designed for streets, highways, railroads, and marine regulations. These specifications do not apply to plant bulletin boards or to safety posters. [1910.145(a)(1)]~~

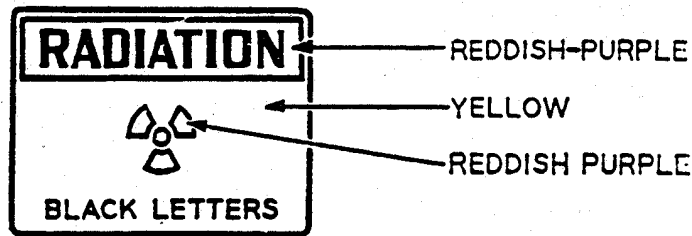
~~–(b) All new signs and replacements of old signs on or after August 31, 1971, shall be in accordance with these specifications. [1910.145(a)(2)]~~

–(2) Definitions.

~~As used in this rule, the word "sign" refers to a surface on which letters or other markings appear, prepared for the warning of, or safety instructions of, industrial workers or members of the public who may be exposed to hazards. Excluded from this definition, however, are news releases, displays commonly known as safety posters, and bulletins used for employee education. [1910.145(b)]~~

–(3) Radiation sign design and colors. (See also Rule 2410)

~~–(a) Purple. Purple basic color for radiation hazards as used in this refers to radiation as X ray, alpha, beta, neutron, proton, and meson. Yellow used in combination~~



~~shall be the designating "Radiation" paragraph types such gamma, deuteron, should be with purple~~

~~for markers such as tags, labels, signs, and floor markers. [1910.144(a)(6)]~~

~~–(b) Standard color of the background shall be yellow; the panel, reddish purple with yellow letters; the symbol, reddish purple; any letters used against the yellow background shall be black. The colors shall be those of opaque glossy samples as specified in Table 1 of American National Standard, Z53.1-1967. [1910.145(d)(3)(i)]~~

~~–(c) The standard symbol shall be as in Figure J-3. Method of dimensioning, design, and orientation of the standard symbol (one blade pointed downward and centered on the vertical axis) shall be executed as illustrated. The symbol shall be prominently displayed, and of a size consistent with the size of the equipment or material or area to which it is attached. [1910.145(d)(3)(ii)]~~

~~–(d) Format shall be as in Figure J-2. Sign proportions shall be the same as those for danger signs in Table J-1. [1910.145(d)(3)(iii)]~~

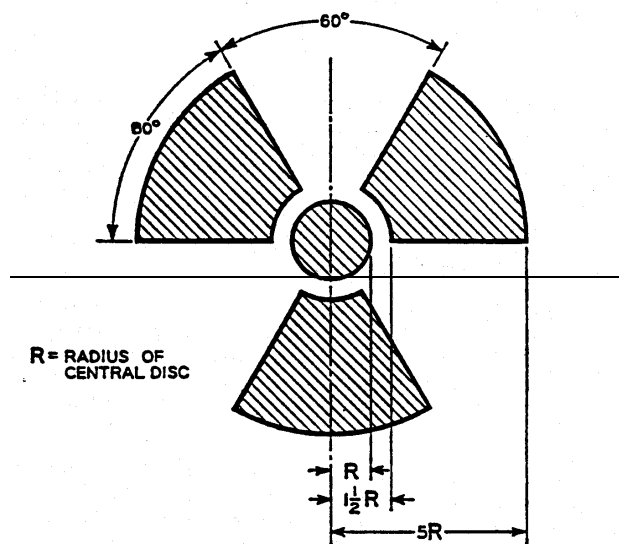


Fig. J-2

TABLE J-1

STANDARD PROPORTIONS FOR DANGER SIGNS

| Sign size, inches Height Width | Black rectangular panel, inches Height Width | Red oval, inches Height Width | Word danger, Height Inches | Maximum space available for sign wording inches |
|--------------------------------------|---|-------------------------------------|-------------------------------|--|
| HORIZONTAL PATTERN | | | | |
| 7 x 10 | $3\frac{1}{4} \times 9\frac{3}{8}$ | $2\frac{7}{8} \times 8\frac{1}{2}$ | $1\frac{7}{16}$ | $2\frac{3}{4} \times 9\frac{3}{8}$ |
| 10 x 14 | $4\frac{5}{8} \times 13\frac{3}{8}$ | $4\frac{1}{8} \times 11\frac{7}{8}$ | $2\frac{1}{16}$ | $4\frac{1}{4} \times 13\frac{3}{8}$ |
| 14 x 20 | $6\frac{1}{2} \times 19\frac{3}{8}$ | $5\frac{3}{4} \times 17$ | $2\frac{7}{8}$ | $6\frac{1}{4} \times 19\frac{3}{8}$ |
| 20 x 28 | $9\frac{1}{4} \times 27\frac{3}{8}$ | $8\frac{1}{4} \times 23\frac{7}{8}$ | $4\frac{1}{8}$ | $9\frac{1}{2} \times 27\frac{3}{8}$ |
| UPRIGHT PATTERN | | | | |
| 10 x 7 | $2\frac{3}{8} \times 6\frac{3}{8}$ | $2\frac{1}{8} \times 5\frac{7}{8}$ | $1\frac{1}{16}$ | $6\frac{3}{8} \times 6\frac{3}{8}$ |
| 14 x 10 | $3\frac{1}{4} \times 9\frac{3}{8}$ | $2\frac{7}{8} \times 8\frac{1}{2}$ | $1\frac{7}{16}$ | $9\frac{1}{2} \times 9\frac{3}{8}$ |
| 20 x 14 | $4\frac{5}{8} \times 13\frac{3}{8}$ | $4\frac{1}{8} \times 11\frac{7}{8}$ | $2\frac{1}{16}$ | $14 \times 13\frac{3}{8}$ |
| 28 x 20 | $6\frac{1}{2} \times 19\frac{3}{8}$ | $5\frac{3}{4} \times 17$ | $2\frac{7}{8}$ | $20\frac{1}{4} \times 19\frac{3}{8}$ |

[1910.145 Table J-1]

(4) Sign wordings.

—(a) Examples of wordings. The following paragraph (b) is intended to serve as a guide for choosing the correct sign design for the message to be displayed. [1910.145(e)(1)]

—(b) Biological hazard signs. The biological hazard warning shall be used to signify the actual or potential presence of a biohazard and to identify equipment, containers, rooms, materials, experimental animals, or combinations thereof, which contain, or are contaminated with, viable hazardous agents. For

the purpose of this paragraph the term "biological hazard," or "biohazard," shall include only those infectious agents presenting a risk or potential risk to the well being of man. The biohazard symbol shall be designed and proportioned as illustrated in Figure J-9. [1910.145(e)(4)]

The symbol design shall be a fluorescent orange or orange-red color. Background color is optional as long as there is sufficient contrast for the symbol to be clearly defined. Appropriate wording may be used in association with the symbol to indicate the nature or identity of the hazard, name of individual responsible for its control, precautionary information, etc., but never should this information be superimposed on the symbol. [1910.145(e)(4)]

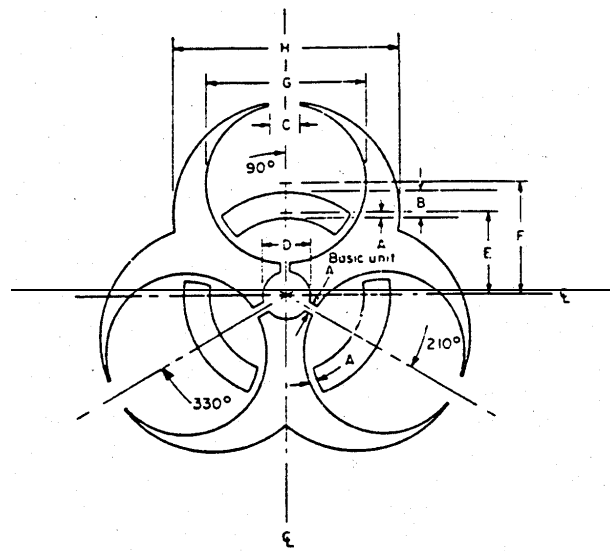
—(c) For non-ionizing radiation (rf) signs: see Rule 2420.

—(d) For "A" designated substances (carcinogens) signs: see Rule 2302.

—(e) For vinyl chloride warning signs: see Rule 2260.

—(f) For asbestos warning signs: see Rule 2205.

—(g) For welding, cutting and brazing signs: see Rule 3240.



| Dimension | A | B | C | D | E | F | G | H |
|-----------|---|-----|---|---|----|----|----|----|
| Units | 1 | 3-2 | 4 | 6 | 11 | 15 | 21 | 30 |

Fig. J-9
Symbol for Biological Hazard

(5) Accident prevention tags:

—(a) Scope and purpose:

—(i) The tags are a temporary means of warning all concerned of a hazardous condition, defective equipment, radiation hazards, etc. The tags are not to be considered as a complete warning method, but should be used until a positive means can be employed to eliminate the hazard; for example, a "Do Not Start" tag on power equipment shall be used for a few moments or a very short time until the switch in the system can be locked out; a "Defective Equipment" tag shall be placed on a damaged ladder and immediate arrangements made for the ladder to be taken out of service and sent to the repair shop. [1910.145(f)(1)(i)]

—(ii) The purpose of this subsection is to establish a set of specifications for tags based on experience and previous use. The tags are to be used in industry, mercantile establishments, or wherever such tags

can be utilized to help prevent accidental injury to personnel or damage to property, or both.
[1910.145(f)(1)(ii)]

–(b) Definitions. The word "tag" as used in this subsection refers to a surface (usually card, paper, pasteboard, or some temporary or nonpermanent material) on which letters or markings, or both, appear. These letters or markings, or both, are for warning (cautioning) or safety instruction of employees who may be exposed to hazards. They are to be affixed to the device in question by string, wire, or adhesive.
[1910.145(f)(2)]

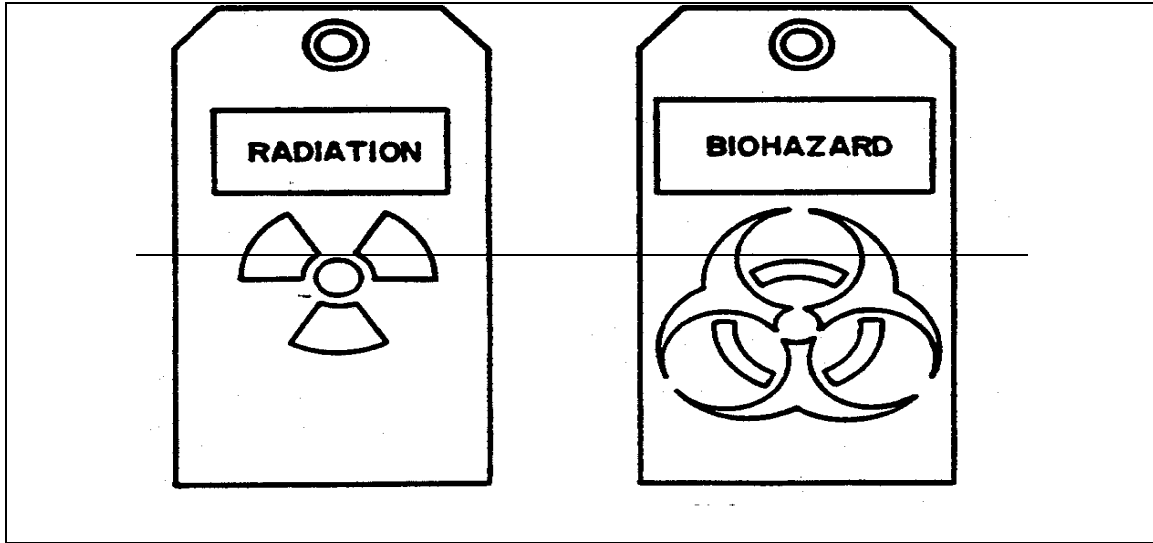
–(c) Radiation tags.

–(i) The standard background for Radiation tags shall be yellow; the panel shall be reddish purple. Any letters used against the yellow background shall be black. The colors shall be those of opaque glossy samples as specified in Table 1, Fundamental Specification of Safety Color Code for Marking Physical Hazards and the Identification of Certain Equipment, Z53.1-1967. [1910.145(f)(7)(i)]
–(ii) The method of dimension, design, and orientation of the standard (one blade pointed downward and centered on the vertical axis) shall be executed as illustrated in Figure J-14. The symbol shall be prominently displayed and of a size consistent with the size of the equipment or area in which it is to be used. [1910.145(f)(7)(ii)]

(d) Biological hazard tags.

–(i) The standard background color for the Biological Hazard symbol is optional as long as there is sufficient contrast for the symbol to be clearly defined. The symbol design (see Figure J-15) shall be a fluorescent orange or orange-red color. [1910.145(f)(8)(i)]
–(ii) The Biological Hazard tag shall be used to signify the actual or potential presence of a biohazard, to identify equipment, containers, rooms, materials, experimental animals, or combinations thereof, which contain or are contaminated with viable hazardous agents. [1910.145(f)(8)(ii)]
–(iii) For the purpose of this paragraph, the term "biological hazard" shall include only those infectious agents presenting a risk or potential risk to the well-being of man. [1910.145(f)(8)(iii)]

| Yellow tag | White tag |
|---|---|
| Yellow Letters in Reddish Purple Panel (Added Wording in Black on Yellow Background) | Black Letters on Fluorescent Orange Background and Symbol |
| Fig. J-14 Radiation Tag | Fig J-15 Biological Hazard Tag |
| | |



~~(6) Caution signs:~~

~~–(a) Caution signs shall be used only to warn against potential hazards or to caution against unsafe practices. [1910.145(e)(2)(i)]~~

~~–(b) All employees shall be instructed that caution signs indicate a possible hazard against which proper precaution should be taken. [1910.145(e)(2)(ii)]~~

~~–(c) Standard color of the background shall be yellow; and the panel, black with yellow letters. Any letters used against the yellow background shall be black. The colors shall be those of opaque glossy samples as specified in Table 1 of American National Standard Z53.1-1967. [1910.145(d)(4)(i)]~~

~~–(d) Standard proportions shall be as indicated in Table J-2, and format shall be as in Figure J-4. [1910.145(d)(4)(ii)]~~

| TABLE J-2—STANDARD PROPORTIONS FOR CAUTION SIGNS | | | |
|--|--|--|--|
| Sign size, inches Height—Width | Black rectangular panel, inches Height—Width | Word ‘Caution’ height of letters, inches | Maximum space available for sign wording below panel inches Height—Width |
| <u>HORIZONTAL PATTERN</u> | | | |
| 7 x 10 | $2\frac{1}{4} \times 9\frac{3}{4}$ | $1\frac{5}{8}$ | $3\frac{1}{4} \times 9\frac{2}{3}$ |
| 10 x 14 | $3\frac{1}{4} \times 13\frac{3}{4}$ | $2\frac{1}{4}$ | $5\frac{2}{3} \times 13\frac{2}{3}$ |
| 14 x 20 | $3\frac{1}{4} \times 19\frac{5}{8}$ | $2\frac{3}{4}$ | $9 \times 19\frac{3}{8}$ |
| 20 x 28 | $4\frac{1}{4} \times 27\frac{3}{8}$ | $3\frac{1}{4}$ | $14\frac{2}{3} \times 27\frac{3}{8}$ |
| <u>UPRIGHT PATTERN</u> | | | |
| 10 x 7 | $1\frac{5}{8} \times 6\frac{3}{8}$ | $1\frac{1}{8}$ | $7 \times 6\frac{3}{8}$ |
| 14 x 10 | $2\frac{1}{4} \times 9\frac{3}{8}$ | $1\frac{3}{8}$ | $10\frac{2}{3} \times 9\frac{3}{8}$ |
| 20 x 14 | $3\frac{1}{4} \times 18\frac{3}{8}$ | $2\frac{1}{4}$ | $15\frac{2}{3} \times 13\frac{3}{8}$ |
| 28 x 20 | $3\frac{3}{4} \times 19\frac{3}{8}$ | $2\frac{3}{4}$ | $24 \times 19\frac{3}{8}$ |



Fig. J-

4
Caution Sign

PROPOSED ADMINISTRATIVE RULES

DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS

DIRECTOR'S OFFICE

OCCUPATIONAL HEALTH STANDARDS

Proposed Draft August 14, 2013

Filed with the Secretary of State on

These rules become effective immediately upon filing with the Secretary of State unless adopted under section 33, 44, or 45a(6) of 1969 PA 306. Rules adopted under these sections become effective 7 days after filing with the Secretary of State.

(By authority conferred on the director of the department of licensing and regulatory affairs by sections 14 and 24 of 1974 PA 154, **MCL 408.1001 and 408.1094**, ~~MCL 408.1014 and 408.1024~~; and Executive Reorganization Order Nos. 1996-1, 1996-2, 2003-1, 2008-4, and 2011-4, **MCL 330.3101, 445.2001, 445.2011, 445.2025, and 445.2030.**)

R 325.60001, R 325.60002, R 325.60003, R 325.60005, R 325.60006, R 325.60008, R 325.60009, R 325.60010, and R 325.60011 of the Michigan Administrative Code are amended, and R 325.60002a, R 325.60002b, R 325.60003a, and R 325.60008a are added, and R 325.60004, R 325.60007, R 325.60012, and R 325.60013 are rescinded, as follows:

PART 433 PERSONAL PROTECTIVE EQUIPMENT

R 325.60001 Scope.

Rule 1. (1) This standard provides specifications for personal protective equipment and prescribes the use of this equipment for the protection of the employee's eyes, face, and hands during general industry operations.

~~These rules apply to personal protective equipment for eyes, face, hands, and respiratory protection, except that R 325.60005 and R 325.60006 do not apply to respiratory protection. Safety standards relating to eye and face protection, head protection, foot protection, and electrical protective equipment are found in R 408.13301 et seq. of the Michigan Administrative Code. Rules applying to personal protective equipment for hearing conservation are found in R 325.60121 et seq. of the Michigan Administrative Code.~~

(2) This standard shall apply to all places of general industry employment in this state and includes requirements of the employer and use by the employee of personal protective equipment and provides reasonable and adequate means, ways, and methods for the proper selection and safe use of this equipment.

(3) Personal protective safety equipment relating to eye and face protection, head protection, hand protection, feet protection, body protection, and electrical protective equipment shall be in

compliance with General Industry Safety Standard Part 33 “Personal Protective Equipment,” as referenced in R 325.60002a.

(4) Hearing protection shall be in compliance with Occupational Health Standard Part 380 “Occupational Noise Exposure,” as referenced in R 325.60002a.

(5) Respiratory protection shall be in compliance with Occupational Health Standard Part 451 “Respiratory Protection,” as referenced in R 325.60002a.

(2) These rules replace occupational health rule 3501.

R 325.60002 Application.

Rule 2. Protective equipment, including personal protective equipment for eyes, face, head, and extremities, protective clothing, ~~respiratory devices~~, and protective shields and barriers, shall be provided, used, and maintained in a sanitary and reliable condition, ~~if~~ **wherever it is necessary by reason because** of hazards of processes or environment, chemical hazards, radiological hazards, or mechanical irritants, encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation, or physical contact.

R 325.60002a Adoption of standards by reference; access to other MIOSHA rules; appendices.

Rule 2a. (1) The following standards are adopted by reference in these rules and are available from IHS Global, 15 Inverness Way East, Englewood, Colorado, 80112, USA, telephone number: 1-800-854-7179 or via the internet at website: <http://global.ihs.com>; at a cost as of the time of adoption of these rules, as stated in this subrule.

(a) American National Standards Institute (ANSI) Z-87.1 "American National Standard Practice for Occupational and Educational Eye and Face Protection," 2003 edition. Cost \$82.00.

(b) ANSI Z-87.1 "American National Standard Practice for Occupational and Educational Eye and Face Protection," 1989 edition, revised 1998. Cost \$148.00.

(c) ANSI Z-87.1 "American National Standard Practice for Occupational and Educational Eye and Face Protection," 1989 edition. Cost: \$148.00.

(2) The standards adopted in subrule (1) of this rule are also available for inspection at the Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143.

(3) Copies of the standards adopted in subrule (1) of this rule may be obtained from the publisher or may also be obtained from the Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143, at the cost charged in this rule, plus \$20.00 for shipping and handling.

(4) The following Michigan occupational safety and health standards (MIOSHA) are referenced in these rules. Up to 5 copies of these standards may be obtained at no charge from the Michigan Department of licensing and regulatory affairs, MIOSHA standards section, 7150 Harris Drive, P.O. Box 30643, Lansing, MI, 48909-8143 or via the internet at website:

www.michigan.gov/mioshastandards. For quantities greater than 5, the cost, at the time of adoption of these rules, is 4 cents per page.

(a) General Industry Safety Standard Part 33 “Personal Protective Equipment,” R 408.13301 to R 408.13398.

(b) Occupational Health Standard Part 380 “Occupational Noise Exposure,” R 325.60101 to R 325.30128.

(c) Occupational Health Standard Part 451 “Respiratory Protection,” R 325.60051 to R 325.60052.

(3) The appendices are informational only and are not intended to create any additional obligations or requirements not otherwise imposed or to detract from any established obligations or requirements.

R 325.60002b Definitions.

Rule 2b. (1) “Chin protector” means the portion of a device that offers protection to a wearer’s chin, lower face, and neck.

(2) “Face shield” means a device commonly intended to shield the wearer's face, or portions thereof, in addition to the eyes, from certain hazards, depending on faceshield type.

(3) “Filter lens” means a lens that attenuates specific wavelengths of ultraviolet, visible, and infrared radiation.

(4) “Frame” means a device, which holds the lens or lenses on the wearer.

(5) “Front” means the part of a spectacle or goggle frame that is intended to contain the lens or lenses.

(6) “Goggle” means a protective device intended to fit the face surrounding the eyes in order to shield the eyes from certain hazards, depending on goggle type.

(7) “Handshield” means a hand-held welding helmet. See "welding helmet."

(8) “Headband” means the part of the harness that encircles the head.

(9) “Helmet” also called a hard hat or cap, means a device that is worn on the head and that is designed to provide limited protection against impact, flying particles, or electric shock.

(10) “Lens” means the transparent part of a protective device through which the wearer sees, also referred to as a plate or window for some devices.

(11) “Lift-front” means a type of supplementary lens and holder that covers the viewing area of a protector immediately in front of the wearer's eyes and that can be positioned outside the line of sight.

(12) “Light” means optical radiation weighted by its ability to cause visual sensations.

(13) “Manufacturer” means a business entity that marks or directs the permanent marking of the components or complete devices as compliant with this standard, and sells them as compliant.

(14) “Non-removable lens” means a lens and holder that are homogeneous and continuous.

(15) “Prescription lens” means a lens manufactured to the wearer's individual corrective prescription.

(16) “Protector” means a device that provides eye or face protection against the hazards of processes encountered in employment.

(17) “Radiant energy or radiation” means the 3 kinds of radiant energy which are pertinent to this standard including the following:

(a) Ultraviolet.

(b) Visible light.

(c) Infrared.

(18) “Sanitizing” means an act or process of destroying organisms that may cause disease.

(19) “Side shield” means a part of, or attachment to, a spectacle that provides side impact resistance.

(20) “Spectacles” also known as “safety glasses,” means a protective device intended to shield the wearer's eyes from certain hazards, depending on the spectacle type; also means a device patterned after conventional-type spectacle eyewear, but of more substantial construction, with or without side shields, and with plano or corrective impact resistant lenses of clear or absorptive filter glass or plastic.

(21) “Temple” means the part of a spectacle frame commonly attached to the front and generally extending behind the ear of the wearer.

(22) “Welding goggle” means a goggle intended for limited welding applications.

(23) “Welding faceshield” means a faceshield intended for limited welding applications. Faceshields shall be used only in conjunction with spectacles or goggles, or both.

(24) “Welding helmet” means a protective device intended to provide protection for the eyes and face against optical radiation and weld spatter, which shall be worn only in conjunction with spectacles or goggles.

(25) “Window,” means the lens portion of a faceshield (see definition of “lens” in R 325.60002b(10)).

R 325.60003 **Employer’s and employee’s responsibilities.** ~~Employee-owned equipment.~~

Rule 3. (1) Where employees provide their own protective equipment, ~~an~~ the employer shall be responsible for ensuring the adequacy of the equipment, including proper maintenance, and for the sanitation of the equipment.

(2) An employer shall not permit defective or damaged personal protective equipment to be used.

PAYMENT FOR PERSONAL PROTECTIVE EQUIPMENT

R 325.60003a Payment for personal protective equipment (PPE).

Rule 3a. (1) An employer shall provide at no cost to employees the personal protective equipment necessary to protect against hazards that the employer is aware of as a result of any required assessments.

(2) An employer shall pay for replacement PPE, as necessary, under either of the following conditions:

(a) When the PPE no longer provides the protection it was designed to provide.

(b) When the previously provided PPE is no longer adequate or functional.

(3) When an employee has lost or intentionally damaged the PPE issued to him or her, an employer is not required to pay for its replacement and may require the employee to pay for its replacement.

(4) An employer is not required to pay for prescription safety eyewear with removable or permanent sideshields as long as the employer provides safety eyewear that fits over an employee’s prescription lenses.

(5) An employer is not required to pay for non-specialty prescription safety eyewear, provided that the employer permits these items to be worn off the job-site.

(6) An employer is not required to pay for either of the following:

(a) Everyday clothing, which includes any of the following:

(i) Long-sleeve shirts.

(ii) Long pants.

(iii) Street shoes.

(iv) Normal work boots.

(v) Ordinary clothing.

(vi) Skin creams.

(b) Other items used solely for protection from weather, which includes any of the following:

- (i) Winter coats.
- (ii) Jackets.
- (iii) Gloves.
- (iv) Parkas.
- (v) Rubber boots.
- (vi) Hats.
- (vii) Raincoats.
- (viii) Ordinary sunglasses.
- (ix) Sunscreen.

(7) An employer shall pay for protection when ordinary weather gear is not sufficient to protect an employee and special equipment or extraordinary clothing is needed to protect the employee from unusually severe weather conditions. Clothing used in artificially-controlled environments with extreme hot or cold temperatures, such as freezers, is not considered part of the weather gear exception.

(8) All of the following apply to upgraded and personalized PPE:

(a) An employer is not required to pay for PPE requested by an employee that exceeds the PPE requirements, provided that the employer provides PPE that meets the standards at no cost to the employee.

(b) If an employer allows an employee to acquire and use upgraded or personalized PPE, then the employer is not required to reimburse the employee for the equipment, provided that the employer has provided adequate PPE at no cost to the employee.

(c) An employer shall evaluate an employee's upgraded or personalized PPE to ensure that it complies with all of the following:

- (i) Adequate to protect from hazards present in the workplace.
- (ii) Properly maintained.
- (iii) Kept in a sanitary condition.

(9) When the provisions of another MIOSHA standard specify whether the employer shall pay for specific equipment, the payment provisions of that standard prevails.

R 325.60004 **Rescinded.** ~~Design.~~

~~Rule 4. All personal protective equipment shall be designed and constructed to be safe for the work to be performed.~~

HAZARD ASSESSMENT

R 325.60005 **Personal protective hazard** ~~Hazard~~ assessment and equipment selection.

Rule 5. (1) An employer shall assess the workplace to determine if hazards are present, or are likely to be present, that necessitate the use of personal protective equipment. ~~If hazards are present, or are likely to be present, and if the employer cannot eliminate the hazards by feasible engineering controls, then the employer shall do all of the following:~~

~~(a) Select, and have each affected employee use, the types of personal protective equipment that will protect the affected employee from the hazards identified in the hazard assessment.~~

~~(b) Communicate selection decisions to each affected employee.~~

~~(c) Select personal protective equipment that properly fits each affected employee~~

(2) If hazards are present, or are likely to be present, and if the employer cannot eliminate the hazards by feasible engineering controls, then the employer shall do all of the following:

(a) Select, and have each affected employee use, the types of personal protective equipment that will protect the affected employee from the hazards identified in the hazard assessment.

(b) Communicate selection decisions to each affected employee.

(c) Select personal protective equipment that properly fits each affected employee.

(d) Select personal protective equipment that shall be designed and constructed to be safe for the work to be performed.

(3) Non-mandatory Appendix B contains an example of procedures that complies with the requirement for a hazard assessment.

~~(4)(2) An employer shall verify, through a written certification that is identified as a certification of hazard assessment, that the required workplace hazard assessment has been performed performed. The certification, shall identify~~ **through a written certification which identifies** all of the following information:

(a) The workplace evaluated.

(b) The person certifying that the evaluation has been performed.

(c) The date or dates of the personal protective hazard assessment

(d) The document is a certification of hazard assessment.

~~(3) An employer shall not permit defective or damaged personal protective equipment to be used.~~

TRAINING

R 325.60006. Personal protective equipment training. ~~Training.~~

Rule 6. (1) An employer shall **provide training** to each employee who is required by these rules to use personal protective equipment. The training shall include all of the following:

(a) When and why personal protective equipment is necessary.

(b) What personal protective equipment is necessary.

(c) How to properly don, doff, adjust, and wear the personal protective equipment.

(d) The limitations of the personal protective equipment.

(e) The proper care, maintenance, useful life, and disposal of the personal protective equipment.

(2) Each affected employee shall demonstrate an understanding of the training specified in subrule (1) of this rule and the ability to use the equipment properly before being allowed to perform work requiring the use of personal protective equipment.

(3) **When an If** the employer has reason to believe that any affected employee who has already been trained does not have the understanding and skill required by subrule (2) of this rule, the employer shall retrain the employee. The occurrence of any of the following circumstances requires retraining:

(a) Changes in the workplace **that** render previous training obsolete.

(b) Changes in the types of personal protective equipment to be used **that** render previous training obsolete.

(c) Inadequacies in an affected employee's knowledge or use of assigned personal protective equipment **which** indicate that the employee has not retained the requisite understanding or skill.

~~(4) An employer shall verify that each affected employee has received and understood the required training through a written certification that contains all of the following information:~~

~~(a) The name of each employee trained.~~

~~(b) The date of training.~~

~~(c) The subject of the certification.~~

R 325.60007. **Rescinded.** ~~Applicability of requirements for hazard assessments and training.~~
~~Rule 7. R 325.60005 and R 325.60006 apply only to face, eye, and hand protection. R 325.60005 and R 325.60006 do not apply to O.H. rule 325.60051 et. seq., Part 451. respiratory protection.~~

EYE AND FACE PROTECTION

R 325.60008. **Use of eye and face protection.** ~~Face and eye protection. generally.~~

Rule 8. (1) An employer shall ensure that each affected employee uses appropriate eye or face protection when exposed to eye or face hazards from any of the following:

- (a) Flying particles.
- (b) Molten metal.
- (c) Liquid chemicals.
- (d) Corrosive materials.
- (e) Air contaminants.
- (f) Radiation.

~~Table 1 of this rule, and table 1, face and eye protector selection chart of R 408.13312, shall be used to select the proper eye and face protection.~~

(2) See Appendix B, Appendix Table 1, “Eye and Face Protector Selection Chart,” and Appendix Figure 1, “Eye and Face Protective Devices Chart,” which shall be used as a guide in the selection of the proper eye and face protection.

~~(3)(2)~~ An employer shall ensure that each affected employee uses eye protection that provides side protection when there is a hazard from flying objects. Detachable side protectors, such as clip-on or slide-on sideshields, that are in compliance with the **pertinent** ~~applicable~~ requirements of this rule are acceptable.

~~(4)(3)~~ An employer shall ensure that each affected employee who wears prescription lenses while engaged in operations that involve eye hazards wears eye protection that incorporates the prescription in its design or wears eye protection that can be worn over the prescription lenses without disturbing the proper position of the prescription lenses or the protective lenses.

~~(5)(4)~~ An employer shall ensure that eye and face personal protective equipment **shall be** ~~is~~ distinctly marked to facilitate identification of the manufacturer.

~~(5) An employer shall ensure that each affected employee uses equipment that has filter lenses which have a shade number appropriate for the work being performed for protection from injurious light radiation.~~

~~Table 1 is a listing of appropriate shade numbers for various operations.~~

~~(6) Table 1 reads as follows:~~

Table 1 **Figure for 325.60008**

| FILTER LENSES FOR PROTECTION AGAINST RADIANT ENERGY | | | |
|--|----------------------------|------------------------------|------------------------------|
| Operations | Electrode Size 1/32 In. | Arc Current | Minimum* Protective Shade |
| Shield metal arc welding | Less than 3 | Less than 60 | 7 |
| | 3 to 5 | 60 to 160 | 8 |
| | More than 5 to 8 | 161 to 250 | 10 |
| | More than 8 | 251 to 550 | 11 |
| Gas metal arc welding and flux cored arc welding | | Less than 60 | 7 |
| | | 60 to 160 | 10 |
| | | 161 to 250 | 10 |
| | | 251 to 500 | 10 |
| Gas tungsten arc welding | | Less than 50 | 8 |
| | | 50 to 150 | 8 |
| | | 151 to 500 | 10 |
| Air carbon Arc cutting | (Light) (Heavy) | Less than 500 500 to 1000 | 10 11 |
| Plasma arc welding | | Less than 20 | 6 |
| | | 20 to 100 | 8 |
| | | 101 to 400 | 10 |
| | | 401 to 800 | 11 |
| Torch brazing | | | 3 |
| Torch soldering | | | 2 |
| Carbon arc welding | | | 14 |
| <u>Gas Welding:</u> | | | |
| Light | Under 1/8 | Under 3.2 | 4 |
| Medium | 1/8 to 1/2 | 3.2 to 12.7 | 5 |
| Heavy | Over 1/2 | Over 12.7 | 6 |
| <u>Oxygen Cutting:</u> | | | |
| Light | Under 1 | Under 25 | 3 |
| Medium | 1 to 6 | 25 to 150 | 4 |
| Heavy | Over 6 | Over 150 | 5 |

R 325.60008a Filter lenses.

Rule 8a. (1) An employer shall ensure that each affected employee uses equipment that has filter lenses which have a shade numbers appropriate for the work being performed for protection from injurious light radiation.

(2) Table 1 is a listing of appropriate shade numbers for various operations.

(3) Table 1 reads as follows:

| TABLE 1 FILTER LENSES FOR PROTECTION AGAINST RADIANT ENERGY | | | |
|--|--------------------------------|----------------------------|---------------------------------|
| OPERATIONS | PLATE THICKNESS (INCHES) | PLATE THICKNESS (MM) | MINIMUM* PROTECTIVE SHADE |
| Gas Welding: | | | |
| Light | Under 1/8 | Under 3.2 | 4 |
| Medium | 1/8 to 1/2 | 3.2 to 12.7 | 5 |
| Heavy | Over 1/2 | Over 12.7 | 6 |
| Oxygen Cutting | | | |
| Light | Under 1 | Under 25 | 3 |
| Medium | 1 to 6 | 25 to 150 | 4 |
| Heavy | Over 6 | Over 150 | 5 |

| OPERATIONS | ELECTRODE SIZE 1/32 IN. | ARC CURRENT | MINIMUM* PROTECTIVE SHADE |
|---|-------------------------------|---------------|---------------------------------|
| Shield metal Arc welding | Less than 3 | Less than 60 | 7 |
| | 3 to 5 | 60 to 160 | 8 |
| | more than 5 to 8 | 161 to 250 | 10 |
| | more than 8 | 251 to 550 | 11 |
| Gas metal arc welding and flux | cored arc welding | Less than 60 | 7 |
| | | 60 to 160 | 10 |
| | | 161 to 250 | 10 |
| | | 251 to 500 | 10 |
| Gas tungsten arc | welding | Less than 50 | 8 |
| | | 50 to 150 | 8 |
| | | 151 to 500 | 10 |
| Air carbon Arc cutting | (Light) | Less than 500 | 10 |
| | (Heavy) | 500 to 1000 | 11 |
| Plasma arc welding | | Less than 20 | 6 |
| | | 20 to 100 | 8 |
| | | 101 to 400 | 10 |
| | | 401 to 800 | 11 |
| Plasma arc cutting | (Light)** | Less than 300 | 8 |
| | (Medium)** | 300 to 400 | 9 |
| | (Heavy)** | 401 to 800 | 10 |
| Torch brazing Torch soldering Carbon arc welding | | | 3 |
| | | | 2 |
| | | | 14 |

* As a rule of thumb, start with a shade that is too dark to see the weld zone. Then go to a lighter shade that gives a sufficient view of the weld zone without going below the minimum. In oxyfuel gas welding or cutting where the torch produces a high yellow light, it is desirable to use a filter lens that absorbs the yellow or sodium line in the visible light of the (spectrum) operation.

** These values apply where the actual arc is clearly seen. Experience has shown that light filters may be used when the arc is hidden by the workpiece.

R 325.60009 **Eye and face** ~~Face and eye protection; consensus standards. criteria.~~

Rule 9. (1) ~~Protective~~ **All protective** eye and face **protection** devices, purchased after July 5, 1994, shall be in compliance with **any of the following consensus standards:** ~~American national standards institute standard Z-87.1-1989, entitled "American National Standard Practice for Occupational and Educational Eye and Face Protection," or shall be demonstrated by the employer to be equally effective. The standard is adopted by reference in these rules and is available from the American National Standards Institute, 11 West 42nd Street, New York, New York 10036, or from the Michigan Department of Consumer and Industry Services, MIOSHA Standards Division, P.O. Box 30643, Lansing, Michigan 48909, at a cost as of the time of adoption of these rules of \$18.00.~~

(a) **ANSI Z-87.1 "American National Standard Practice for Occupational and Educational Eye and Face Protection," 2003 edition, as adopted in R 325.60002a.**

(b) ANSI Z-87.1 "American National Standard Practice for Occupational and Educational Eye and Face Protection," 1989 (Revised 1998) edition, as adopted in R 325.60002a.

(c) ANSI Z-87.1 "American National Standard Practice for Occupational and Educational Eye and Face Protection," 1989 edition, as adopted in R 325.60002a.

(2) Protective eye and face protection devices that the employer demonstrates are at least as effective as protective eye and face protection devices that are constructed in accordance with 1 of the consensus standards adopted in subrule (1) of this rule shall be considered to be in compliance with this rule. ~~Eye and face protective devices, purchased before July 5, 1994, shall be in compliance with American national standards institute standard Z-87.1—1968, entitled “USA “Standard for Occupational and Educational Eye and Face Protection,” or shall be demonstrated by the employer to be equally effective. The standard is adopted by reference in these rules and is available from the American National Standards Institute, 11 West 42nd Street, New York, New York 10036, or from the Michigan Department of Consumer and Industry Services, MIOSHA Standards Division, P.O. Box 30643, Lansing, Michigan 48909, at a cost as of the time of adoption of these rules of \$18.00.~~

HAND PROTECTION

R 325.60010 Hand protection, generally.

Rule 10. An employer shall select and require employees to use appropriate hand protection when employees' hands are exposed to hazards, such as **those from** any of the following:

(a) Skin absorption of harmful substances.

(b) Severe cuts or lacerations.

(c) Severe abrasions.

(d) Punctures.

(e) Chemical burns.

(f) Irritating materials.

(g) Thermal burns.

(h) Harmful temperature extremes.

R 325.60011 Hand protection, selection.

Rule 11. An employer shall base the selection of the appropriate hand protection on an evaluation of the performance characteristics of the hand protection relative to all of the following:

(a) The task **or tasks** to be performed.

(b) Conditions present.

(c) Duration of use.

(d) The hazards and potential hazards identified.

R 325.60012 **Rescinded.** ~~Appendices.~~

~~Rule 12. Appendices A and B to these rules are informational only and are not intended to create any additional obligations or requirements not otherwise imposed or to detract from any established obligations or requirements. They are identical to appendices A and B to 29 C.F.R. §§1910.132, 1910.133, and 1910.138, from which these rules were derived.~~

R 325.60013 **Rescinded.** ~~Availability of rules and appendices; permission to copy.~~

~~Rule 13. (1) Copies of these rules and related appendices are available at no cost from the Michigan Department of Consumer and Industry Services, MIOSHA Standards Division, P.O. Box 30643, Lansing, Michigan 48909.~~

~~(2) Permission to copy any of these documents in full is granted by the director of the department of consumer and industry services.~~

PROPOSED ADMINISTRATIVE RULES

**DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS ~~CONSUMER AND~~
INDUSTRY SERVICES**

DIRECTOR'S OFFICE ~~BUREAU OF SAFETY AND REGULATION~~

GENERAL INDUSTRY SAFETY STANDARDS ~~COMMISSION~~

Proposed Draft August 14, 2013

Filed with the Secretary of State on

These rules become effective immediately upon filing with the Secretary of State unless adopted under section 33, 44, or 45a(6) of 1969 PA 306. Rules adopted under these sections become effective 7 days after filing with the Secretary of State.

(By authority conferred on the **director of the department of licensing and regulatory affairs** ~~general industry safety standards commission~~ by sections 16 and 21 of **1974 PA Act No. 154** ~~of the Public Acts of 1974, as amended, being §§408.1016 and 408.1021 of the Michigan Compiled Laws~~) **and Executive Reorganization Order Nos. 1996-2, 2003-1, 2008-4, and 2011-4, MCL 445.2001, 445.2011, 445.2025, and 445.2030)**

R 408.14904, R 408.14905, R 408.14906, R 408.14908, R 408.14911, R 408.14921, R 408.14922, R 408.14923, R 408.14924, R 408.14925, R 408.14926, R 408.14931, R 408.14932, R 408.14933, R 408.14934, R 408.14935, R 408.14941, R 408.14942, R 408.14943, R 408.14944, R 408.14945, R 408.14951, R 408.14952, R 408.14953, R 408.14954, R 408.14961, R 408.14962, R 408.14963, R 408.14964, and R 408.14965 of the Michigan Administrative Code, are amended, and R 408.14902 is added, as follows:

PART 49. SLINGS

R 408.14902 Adoption of standard.

Rule 4902. (1) The following standard is adopted by reference in these rules, American Society of Mechanical Engineers Standard ASME B-30.9 “Slings,” 1990 edition. This standard may be purchased from IHS Global, 15 Inverness Way East, Englewood, Colorado, 80112, USA, telephone number: 1-800-854-7179 or via the internet at web-site: <http://global.ihs.com> at a cost as of the time of adoption of these amendments of \$93.00.

(2) The standard adopted in subrule (1) of this rule is also available for inspection at the Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143.

(3) Copies of the standard adopted in subrule (1) of this rule may be obtained from the publisher or may also be obtained from the Department of Licensing and Regulatory Affairs, MIOSHA

Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143, at the cost charged in this rule, plus \$20.00 for shipping and handling.

R 408.14904 Definitions; C.

Rule 4904. (1) "Cable laid endless sling-mechanical joint" means a wire rope sling made endless by joining the ends of a single length of cable laid rope with 1 or more metallic fittings.

(2) "Cable laid grommet-hand tucked" means an endless wire rope sling made from 1 length of rope wrapped 6 times around a core formed by hand, tucking the ends of the rope inside the 6 wraps.

(3) "Cable laid rope" means a wire rope composed of 6 wire ropes wrapped around a fiber or wire rope core.

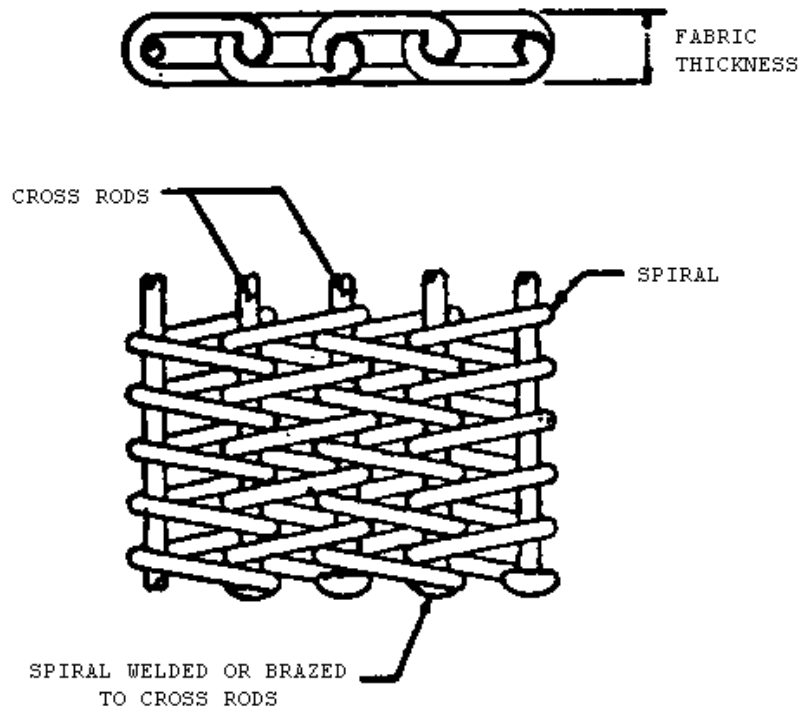
(4) "Cable laid rope sling-mechanical joint" means a wire rope sling made from a cable laid rope, with eyes fabricated by pressing or swaging 1 or more metal sleeves over the rope junction.

(5) "Choker hitch" means a sling configuration with 1 end of the sling passing under the load and through an end attachment, handle, or eye on the other end of the sling.

(6) "Coating" means an elastomer, or other suitable material, applied to a sling or to a sling component to impart desirable properties.

(7) "Cross rod" means a wire used to join spirals of metal mesh to form a complete fabric. (See figure 2 **"Metal Mesh Construction"**)

**FIGURE 2
METAL MESH CONSTRUCTION**



R 408.14905 Definitions; D to H.

Rule 4905. (1) "Designated" means to be selected or assigned by the employer or the employer's representative as being qualified to perform specific duties.

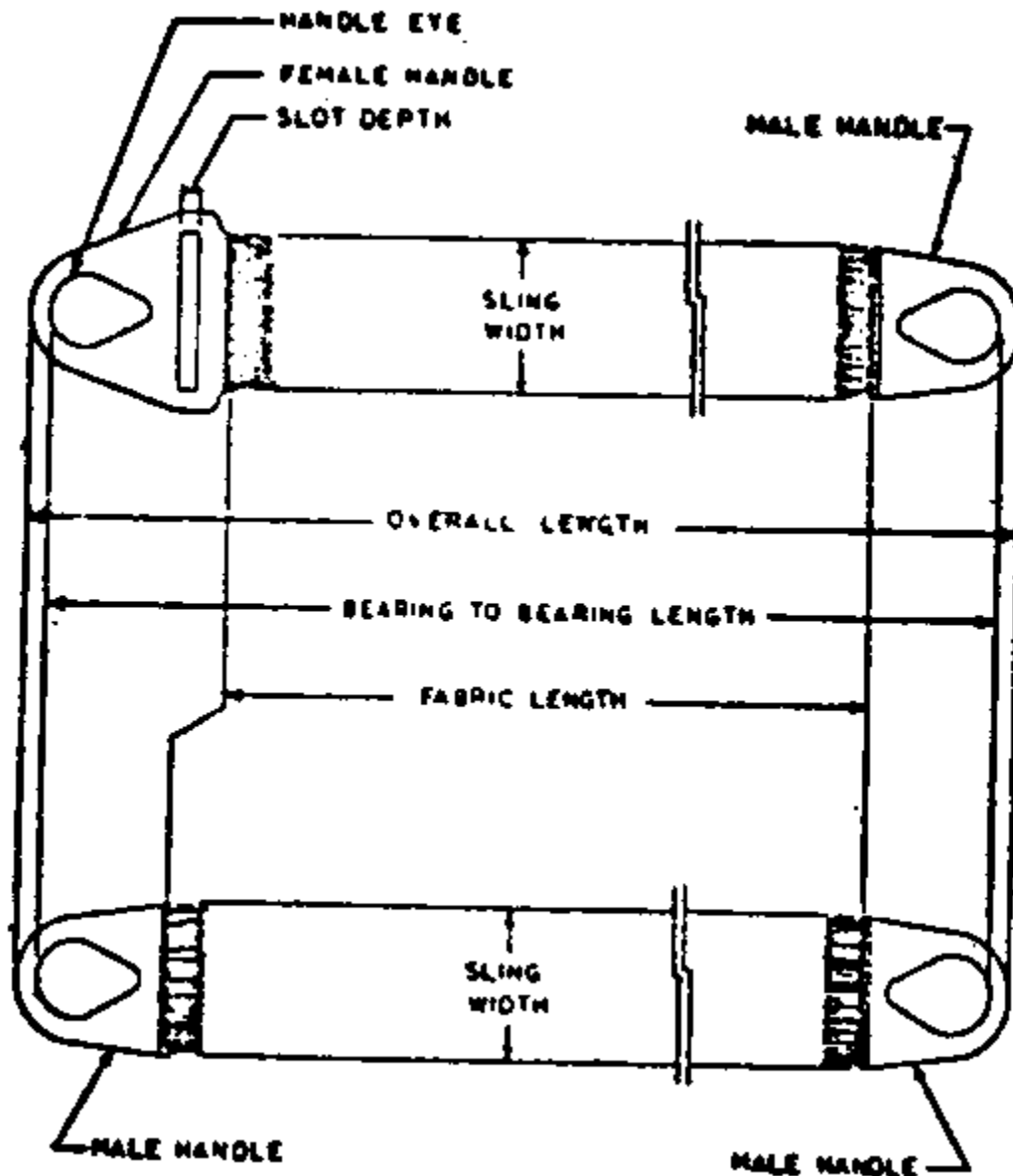
(2) "Female handle of a choker sling" means a handle with a handle eye and a slot of such dimension as to permit passage of a male handle, thereby allowing the use of a metal mesh sling in a choker hitch. (See figure 1 "**Metal Mesh Sling**")

(3) "Handle" means a terminal fitting to which metal mesh fabric is attached. (See figure 1 "**Metal Mesh Sling**")

(4) "Handle eye" means an opening in a handle of a metal mesh sling shaped to accept a hook, shackle, or other lifting device. (See figure 1 "**Metal Mesh Sling**")

(5) "Hitch" means a sling configuration whereby the sling is fastened to an object or load, either directly to it or around it.

FIGURE 1
METAL MESH SLING (Typical)



R 408.14906 Definitions; L, M.

Rule 4906. (1) "Link" means a single ring of a chain.

(2) "Male handle," or ~~sometimes called a "triangle,"~~ means a handle with a handle eye.

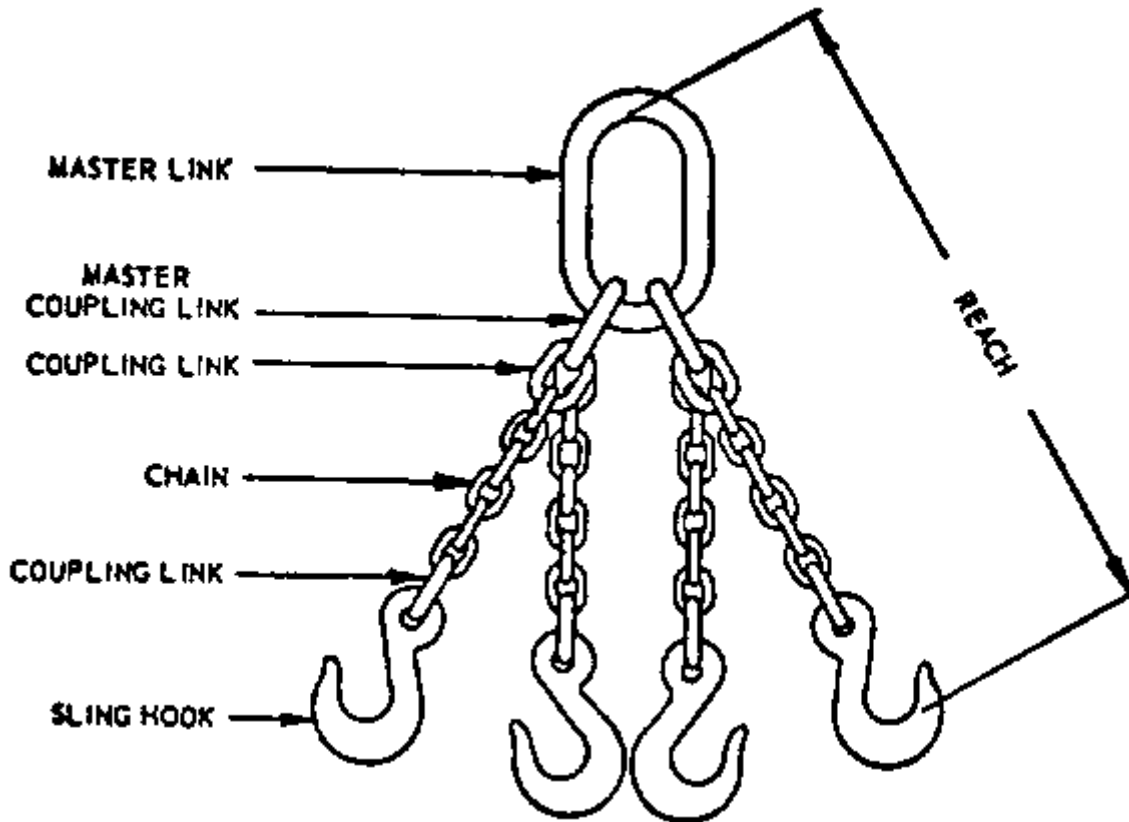
(3) "Master coupling link" means an alloy steel welded coupling link used as an intermediate link to join alloy steel chain to master links. (See figure 3 **"Major Components of a Quadruple Sling"**)

(4) "Master link," or ~~sometimes called a "gathering ring"~~ means a forged or welded steel link used to support all members (legs) of an alloy steel chain sling or wire rope sling. (See figure 3 **"Major Components of a Quadruple Sling"**)

(5) "Mechanical coupling link" means a nonwelded, mechanically closed steel link used to attach master links and hooks to alloy steel chain.

(6) "Metal mesh," ~~or sometimes called~~ "fabric," means the flexible portion of a metal mesh sling, consisting of a series of transverse coils and cross rods.

**FIGURE 3
MAJOR COMPONENTS OF A GUADRUPLE SLING**



R 408.14908 Definitions; S to V.

Rule 4908. (1) "Selvage edge" means the finished edge of synthetic webbing designed to prevent unraveling.

(2) "Sling" means an assembly which connects the load to the material handling equipment for the purpose of lifting or hoisting.

(3) "Sling manufacturer" means a person or organization that assembles sling components into their final form for sale to users.

(4) "Spiral" means a single transverse coil that is the basic element from which metal mesh is fabricated. (See figure 2 "**Metal Mesh Construction**")

(5) "Strand laid endless sling-mechanical joint" means a wire rope sling made endless from 1 length of rope, with the ends joined by 1 or more metallic fittings.

(6) "Strand laid grommet-hand tucked" means an endless wire rope sling made from 1 length of strand wrapped 6 times around a core formed by hand tucking the ends of the strand inside the 6 wraps.

(7) "Strand laid rope" means a wire rope made with strands, usually 6 or 8, wrapped around a fiber core, wire strand core, or independent wire rope core.

(8) "Vertical hitch" means a method of supporting a load by a single, vertical part or leg of the sling. (See figure 4 "Basic Sling Configurations with Vertical Legs")

FIGURE 4
BASIC SLING CONFIGURATIONS WITH VERTICAL LEGS

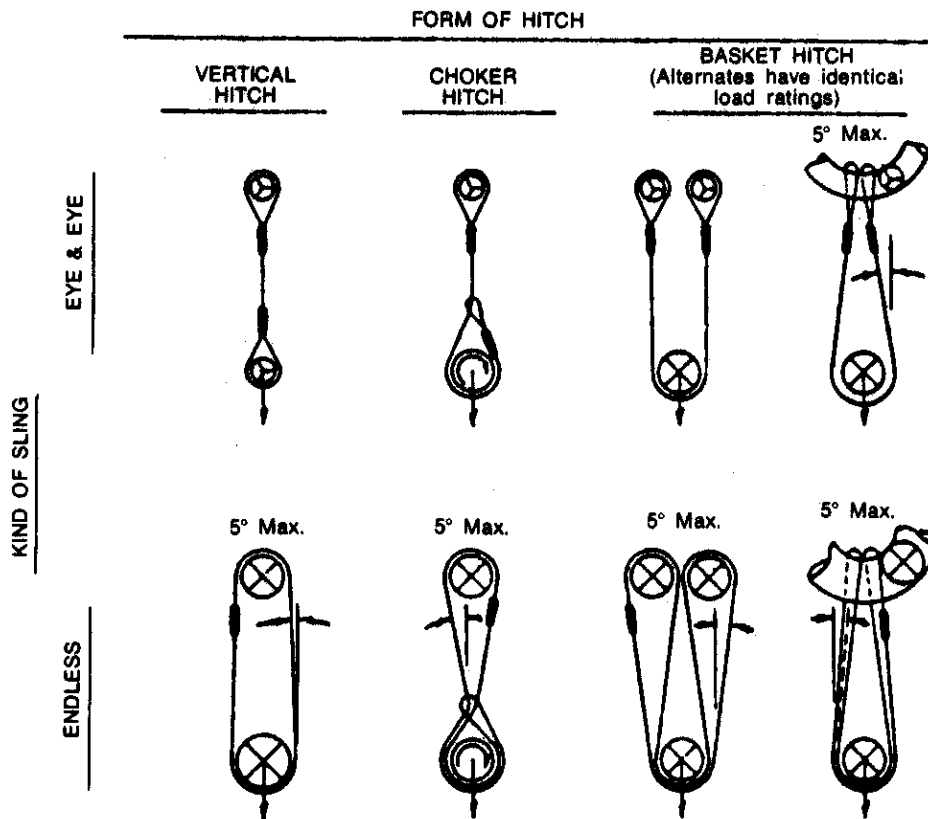
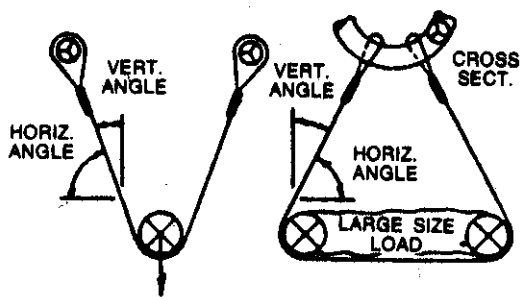
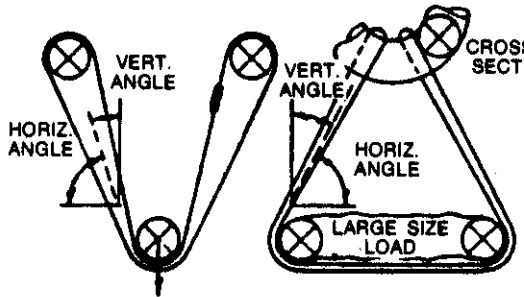


FIGURE 5
BLING CONFIGURATIONS WITH ANGLED LEGS

| | | FORM OF HITCH | | |
|---------------|-----------|----------------|----------------|---|
| | | VERTICAL HITCH | CHOKER HITCH | BASKET HITCH (Alternates have identical load ratings) |
| KIND OF SLING | EYE & EYE | NOT APPLICABLE | NOT APPLICABLE |  |
| | ENDLESS | NOT APPLICABLE | NOT APPLICABLE |  |

Notes: Angles 5 degrees or less from the vertical may be considered vertical angles. For slings with legs more than 5 degrees off vertical, the actual angle as shown in Figure 5 must be considered.

EXPLANATION OF SYMBOLS: MINIMUM DIAMETER OF CURVATURE



Represents a contact surface which shall have a diameter of curvature at least double the diameter of the rope from which the sling is made



Represents a contact surface which shall have a diameter of curvature at least 8 times the diameter of the rope.



Represents a load in a choker hitch and illustrates the rotary force on the load and/or the slippage of the rope in contact with the load. Diameter of curvature of lead surface shall be at least double the diameter of the rope.

R 408.14911 General operating practices.

Rule 4911. (1) Whenever a sling is used, the following practices shall be followed:

- (a) A damaged or defective sling, as described in this standard, shall not be used.
 - (b) A sling shall not be shortened with bolts, knots, or other makeshift devices.
 - (c) Sling legs shall not be kinked.
 - (d) A sling shall not be loaded in excess of its rated capacity.
 - (e) A sling used in a basket hitch shall have the load balanced to prevent slipping.
 - (f) A sling shall be securely attached to its load.
 - (g) A sling, other than an alloy steel chain, shall be padded or protected from the sharp corners of its load.
 - (h) A suspended load shall be kept clear of all obstructions.
 - (i) An employee shall be kept clear of a suspended load and a load about to be lifted.
 - (j) An employee's hand or finger shall not be placed between the load and sling while the sling is being tightened.
 - (k) Slack in a sling shall be removed gradually.
 - (l) A sling shall not be pulled from under a load when the load is resting on the sling.
- (2) **Employers shall not load a sling in excess of its recommended safe working load as prescribed by the sling manufacturer on the identification markings permanently affixed to the sling.**
- (3) **Employers shall not use slings without affixed and legible identification markings.**

ALLOY STEEL CHAIN SLINGS

R 408.14921 ~~Alloy steel chain slings;~~ **Sling** identification.

Rule 4921. An alloy steel chain sling shall have a permanently affixed, durable identification, stating the size, grade, rated capacity, and reach.

R 408.14922 ~~Alloy steel chain slings; rated~~ **Rated** capacity of attachments.

Rule 4922. (1) A hook, ring, oblong link, pear-shaped link, welded or mechanical coupling link, or other attachment shall have a rated capacity at least equal to that of the alloy steel chain with which they are used, or the sling shall not be used in excess of the rated capacity of the weakest component.

(2) A makeshift link or fastener formed from bolts or rods, or other such attachments, shall not be used.

R 408.14923 ~~Alloy steel chain slings; inspections;~~ **Inspections;** records; removal from service; proof testing.

Rule 4923. (1) In addition to the inspection prescribed by R 408.14912, an employer shall designate an employee to make a thorough periodic inspection of an alloy steel chain sling in

use on a regular basis. An employer shall determine the regularity of inspection based on all of the following factors:

- (a) Frequency of sling use.
- (b) Severity of service conditions.
- (c) Nature of lifts being made.
- (d) Experience gained on the service life of slings used in similar circumstances.

The designated employee shall inspect an alloy steel chain sling at least once every 12 months.

(2) The employer shall make and maintain a record of the most recent month in which each alloy steel chain sling was thoroughly inspected and shall make the record available for examination.

(3) The employee designated to make the inspection of an alloy steel chain sling shall make a thorough inspection for all of the following:

- (a) Wear.
- (b) Defective welds.
- (c) Deformation.

(d) An increase in length beyond acceptable limits established in this part. If the defects or deteriorations are present, then the designated employee shall immediately remove the sling from service.

(4) The employer shall ensure that, before use, each new, repaired, or reconditioned alloy steel chain sling, including all welded components in the sling assembly, is proof-tested by the sling manufacturer in accordance with ~~ANSI/ ASME standard B-30.9 -1990~~, **"Slings," 1990 edition, as adopted in R 408.14902.** ~~The standard is adopted by reference in these rules and may be inspected at the Lansing office of the Michigan Department of Consumer and Industry Services. The standard may be purchased at a cost of \$90.00 as of time of adoption of this rule from the American National Standards Institute, 1430 Broadway Avenue, New York, New York 10018, or the Michigan Department of Consumer and Industry Services, State Secondary Complex, 7150 Harris Drive, Box 30643, Lansing, Michigan 48909. The employer shall retain a certificate of the proof test and shall make it available for examination.~~

(5) The employer shall retain a certificate of the proof test and shall make it available for examination.

~~(6)(5) If the chain size at any point of the any-link is less than that stated prescribed in Table 1, then the designated employee shall~~ **the employer shall** remove the **chain** sling from service.

TABLE 1
MINIMUM ALLOWABLE CHAIN SIZE AT ANY POINT OF LINK

| Chain size (inches) | Maximum allowable wear |
|---------------------|------------------------|
| 1/4 | 13/64 |
| 3/8 | 19/64 |
| 1/2 | 25/64 |
| 5/8 | 31/64 |
| 3/4 | 19/32 |
| 7/8 | 45/64 |
| 1 | 13/16 |
| 1 1/8 | 29/32 |
| 1 1/4 | 1 |
| 1 3/8 | 1-3/32 |
| 1 1/2 | 1-3/16 |
| 1 3/4 | 1-13/32 |

R 408.14924 Alloy steel chain slings; rated capacities, high temperature limit. *Safe operating temperatures.*

Rule 4924. (1) ~~An alloy steel chain sling shall not be used with a load in excess of the rated capacities prescribed in Table 2. A sling not included in this table shall be used only in accordance with manufacturer's recommendations.~~

(2) **Employers shall permanently remove an alloy steel-chain slings from service if it is heated above 1,000 degrees F. When exposed to service temperatures in excess of 600 degrees F, employers shall reduce the maximum working-load limits permitted by the chain manufacturer in accordance with the chain or sling manufacturer's recommendations. An alloy steel chain sling shall be permanently removed form service if it is heated above 1,000 degrees Fahrenheit. When exposed to a service temperature of more than 600 degrees Fahrenheit, the maximum working load limit permitted in Table 2 shall be reduced in accordance with the manufacturer's recommendations.**

TABLE 2
~~RATED CAPACITY (WORKING LOAD LIMIT), FOR ALLOY STEEL CHAIN SLINGS~~
RATED CAPACITY (WORKING LOAD LIMIT), POUNDS

| CHAIN SIZE, INCHES | SINGLE BRANCH SLING- 90 DEGREE LOADING | DOUBLE SLING VERTICLE ANGLE (1) | | | TRIPLE AND QUADRUPLE SLING(3) VERTICLE ANGLE (1) | | |
|--------------------------|--|------------------------------------|--------------|--------------|--|--------------|--------------|
| | | 30 DEGREE | 45 DEGREE | 60 DEGREE | 30 DEGREE | 45 DEGREE | 60 DEGREE |

| | | HORIZONTAL ANGLE (2) | | | HORIZONTAL ANGLE (2) | | |
|-------|---------|----------------------|--------------|--------------|----------------------|--------------|--------------|
| | | 60 DEGREE | 45 DEGREE | 30 DEGREE | 60 DEGREE | 45 DEGREE | 30 DEGREE |
| 1/4 | 3,250 | 5,550 | 4,550 | 3,250 | 8,400 | 6,800 | 4,900 |
| 3/8 | 6,600 | 11,400 | 9,300 | 6,600 | 17,000 | 14,000 | 9,900 |
| 1/2 | 11,250 | 19,500 | 15,900 | 11,250 | 29,000 | 24,000 | 17,000 |
| 5/8 | 16,500 | 28,500 | 23,300 | 16,500 | 43,000 | 35,000 | 24,500 |
| 3/4 | 23,000 | 39,800 | 32,500 | 23,000 | 59,500 | 48,500 | 34,500 |
| 7/8 | 28,750 | 49,800 | 40,600 | 28,750 | 74,500 | 61,000 | 43,000 |
| 1 | 38,750 | 67,100 | 54,800 | 38,750 | 101,000 | 82,000 | 58,000 |
| 1-1/8 | 44,500 | 77,000 | 63,000 | 44,500 | 115,300 | 94,500 | 66,500 |
| 1-1/4 | 57,500 | 99,500 | 81,000 | 57,500 | 149,000 | 121,500 | 86,000 |
| 1-3/8 | 67,000 | 116,000 | 94,000 | 67,000 | 174,000 | 141,000 | 100,500 |
| 1-1/2 | 80,000 | 138,000 | 112,500 | 80,000 | 207,000 | 169,000 | 119,500 |
| 1-3/4 | 100,000 | 172,000 | 140,000 | 100,000 | 258,000 | 210,000 | 150,000 |

(1) ~~Rating of multileg slings adjusted for angle of loading measured as the included angle between the inclined leg and the vertical.~~

(2) ~~Rating of multileg slings adjusted for angle of loading between the inclined leg and the horizontal plane of the load.~~

(3) ~~Quadruple sling rating is same as triple sling because normal lifting practice may not distribute load uniformly to all 4 legs.~~

R 408.14925 ~~Alloy steel chain slings; repairing,~~ **Repairing;** reconditioning, and proof testing.

Rule 4925. (1) A worn or damaged alloy steel chain sling or attachment shall not be used until repaired.

(2) When welding or heat treating is performed, a sling shall not be used unless repaired, reconditioned, and proof tested by the sling manufacturer.

(3) A mechanical coupling link or low carbon steel repair link shall not be used to repair broken lengths of chain.

R 408.14926 ~~Alloy steel chain slings; cracked~~ **Cracked** or deformed links or hooks; removal from service.

Rule 4926. (1) Alloy steel chain slings with cracked or deformed master links, coupling links, or other components shall be removed from service.

(2) A sling shall be removed from service if the hook is cracked, has been opened more than 15% of the normal throat opening measured at the narrowest point, or twisted more than 10 degrees from the plane of the unbent hook.

WIRE ROPE SLINGS

R 408.14931 ~~Wire rope slings; rated capacity; temperature limits.~~ Safe operating temperatures; sling use.




Rule 4931. (1) A wire rope sling shall not be used with loads in excess of the rated capacities. ~~shown in Tables 3 to 14.~~ A sling ~~not included in these tables~~ shall be used only in accordance with the manufacturer's recommendations.

(2) A fiber core wire rope sling of any grade shall be permanently removed from service if it is exposed to a temperature in excess of 200 degrees Fahrenheit.

(3) When a nonfiber core wire rope sling of any grade is used at a temperature above 400 degrees Fahrenheit or below minus 60 degrees Fahrenheit, recommendations of the sling manufacturer regarding use at that temperature shall be followed.

(4) Employers shall use only wire-rope slings that have permanently affixed and legible identification markings as prescribed by the manufacturer and that indicate the recommended safe working load for the type of hitch used, the angle upon which it is based, and the number of legs if more than 1.

TABLE 3
RATED CAPACITIES FOR SINGLE LEG SLINGS

| 6x19 and 6x37 Classification Improved Plow Steel Grade Rope with Fiber Core (FC)Rope | | Rated capacities, tons (2,000 lb.) | | | | | | | | |
|--|------------------|---|------|------|--|------|------|---|------|------|
| | |  Vertical | | |  Choker | | |  Vertical basket [*] | | |
| Diameter (inches) | Constructio n | HT | MS | S | HT | MS | S | HT | MS | S |
| 1/4 | 6 x 19 | 0.49 | 0.51 | 0.55 | 0.37 | 0.38 | 0.41 | 0.99 | 1.0 | 1.1 |
| 5/16 | 6 x 19 | 0.76 | 0.79 | 0.85 | 0.57 | 0.59 | 0.64 | 1.5 | 1.6 | 1.7 |
| 3/8 | 6 x 19 | 1.1 | 1.1 | 1.2 | 0.80 | 0.85 | 0.91 | 2.1 | 2.2 | 2.4 |
| 7/16 | 6 x 19 | 1.4 | 1.5 | 1.6 | 1.1 | 1.1 | 1.2 | 2.9 | 3.0 | 3.3 |
| 1/2 | 6 x 19 | 1.8 | 2.0 | 2.1 | 1.4 | 1.5 | 1.6 | 3.7 | 3.9 | 4.3 |
| 9/16 | 6 x 19 | 2.3 | 2.5 | 2.7 | 1.7 | 1.9 | 2.0 | 4.6 | 5.0 | 5.4 |
| 5/8 | 6 x 19 | 2.8 | 3.1 | 3.3 | 2.1 | 2.3 | 2.5 | 5.6 | 6.2 | 6.7 |
| 3/4 | 6 x 19 | 3.9 | 4.4 | 4.8 | 2.9 | 3.3 | 3.6 | 7.8 | 8.8 | 9.5 |
| 7/8 | 6 x 19 | 5.1 | 5.9 | 6.4 | 3.9 | 4.5 | 4.8 | 10.0 | 12.0 | 13.0 |
| 1 | 6 x 19 | 6.7 | 7.7 | 8.4 | 5.0 | 5.8 | 6.3 | 13.0 | 15.0 | 17.0 |
| 1 1/8 | 6 x 19 | 8.4 | 9.5 | 10.0 | 6.3 | 7.1 | 7.9 | 17.0 | 19.0 | 21.0 |
| 1 1/4 | 6 x 37 | 9.8 | 11.0 | 12.0 | 7.4 | 8.3 | 9.2 | 20.0 | 22.0 | 25.0 |
| 1 3/8 | 6 x 37 | 12.0 | 13.0 | 15.0 | 8.9 | 10.0 | 11.0 | 24.0 | 27.0 | 30.0 |
| 1 1/2 | 6 x 37 | 14.0 | 16.0 | 17.0 | 10.0 | 12.0 | 13.0 | 28.0 | 32.0 | 35.0 |
| 1 5/8 | 6 x 37 | 16.0 | 18.0 | 21.0 | 12.0 | 14.0 | 15.0 | 33.0 | 37.0 | 41.0 |
| 1 3/4 | 6 x 37 | 19.0 | 21.0 | 24.0 | 14.0 | 16.0 | 18.0 | 38.0 | 43.0 | 48.0 |
| 2 | 6 x 37 | 25.0 | 28.0 | 31.0 | 18.0 | 21.0 | 23.0 | 49.0 | 55.0 | 62.0 |

HT=Hand Tucked Splice and Hidden Tuck Splice. For hidden tuck splice (IWRC) use values in HT columns.

MS=Mechanical Splice.




S=Swaged or Zinc Poured Socket.

* These values only apply when the D/d ratio for HT slings is 10 or greater, and for MS and S Slings is 20 or greater where:

D=Diameter of curvature around which the body of the sling is bent.

d=Diameter of rope.

TABLE H-4
RATED CAPACITIES FOR SINGLE LEG SLINGS
6x19 and 6x37 Classification Improved Plow Steel Grade Rope
with Independent Wire Core (IWRC)

| Rope | | Rated capacities, tons (2,000 lb.) | | | | | | | | |
|-------------------|--------------|---|------|------|---|------|------|---|------|------|
| | |  Vertical | | |  Choker | | |  Vertical basket [†] | | |
| Diameter (inches) | Construction | HT | MS | S | HT | MS | S | HT | MS | S |
| 1/4 | 6 x 19 | 0.53 | 0.56 | 0.59 | 0.40 | 0.42 | 0.44 | 1.0 | 1.1 | 1.2 |
| 5/16 | 6 x 19 | 0.81 | 0.87 | 0.92 | 0.61 | 0.65 | 0.69 | 1.6 | 1.7 | 1.8 |
| 3/8 | 6 x 19 | 1.1 | 1.2 | 1.3 | 0.86 | 0.93 | 0.98 | 2.3 | 2.5 | 2.6 |
| 7/16 | 6 x 19 | 1.5 | 1.7 | 1.8 | 1.2 | 1.3 | 1.3 | 3.1 | 3.4 | 3.5 |
| 1/2 | 6 x 19 | 2.0 | 2.2 | 2.3 | 1.5 | 1.6 | 1.7 | 3.9 | 4.4 | 4.6 |
| 9/16 | 6 x 19 | 2.5 | 2.7 | 2.9 | 1.8 | 2.1 | 2.2 | 4.9 | 5.5 | 5.8 |
| 5/8 | 6 x 19 | 3.0 | 3.4 | 3.6 | 2.2 | 2.5 | 2.7 | 6.0 | 6.8 | 7.2 |
| 3/4 | 6 x 19 | 4.2 | 4.9 | 5.1 | 3.1 | 3.6 | 3.8 | 8.4 | 9.7 | 10.0 |
| 7/8 | 6 x 19 | 5.5 | 6.6 | 6.9 | 4.1 | 4.9 | 5.2 | 11.0 | 13.0 | 14.0 |
| 1 | 6 x 19 | 7.2 | 8.5 | 9.0 | 5.4 | 6.4 | 6.7 | 14.0 | 17.0 | 18.0 |
| 1 1/8 | 6 x 19 | 9.0 | 10.0 | 11.0 | 6.8 | 7.8 | 8.5 | 18.0 | 21.0 | 23.0 |
| 1 1/4 | 6 x 37 | 10.0 | 12.0 | 13.0 | 7.9 | 9.2 | 9.9 | 21.0 | 24.0 | 26.0 |
| 1 3/8 | 6 x 37 | 13.0 | 15.0 | 16.0 | 9.6 | 11.0 | 12.0 | 25.0 | 29.0 | 32.0 |
| 1 1/2 | 6 x 37 | 15.0 | 17.0 | 19.0 | 11.0 | 13.0 | 14.0 | 30.0 | 35.0 | 38.0 |
| 1 5/8 | 6 x 37 | 18.0 | 20.0 | 22.0 | 13.0 | 15.0 | 17.0 | 35.0 | 41.0 | 44.0 |
| 1 3/4 | 6 x 37 | 20.0 | 24.0 | 26.0 | 15.0 | 18.0 | 19.0 | 41.0 | 47.0 | 51.0 |
| 2 | 6 x 37 | 26.0 | 30.0 | 33.0 | 20.0 | 23.0 | 25.0 | 53.0 | 61.0 | 66.0 |

† These values only apply when the D/d ratio for HT slings is 10 or greater, and for MS and S Slings is 20 or greater where:




D=Diameter of curvature around which the body of the sling is bent.

d=Diameter of rope.

HT=Hand Tucked Splice: For hidden tuck splice (IWRC) use Table H-3 values in HT column.

MS=Mechanical Splice.

S=Swaged or Zinc Poured Socket.

| <p align="center">TABLE H-5 RATED CAPACITIES FOR SINGLE LEG SLINGS Cable Laid Rope—Mechanical Splice Only 7x7x7 and 7x7x19 Classification Galvanized Aircraft Grade Rope 7x6x19 IWRC Construction Improved Plow Steel Grade Rope</p> | | | | |
|---|---------------------|---|---|---|
| Rope | | Rated capacities, tons (2,000 lb.) | | |
| Diameter (inches) | Construction |  Vertical |  Choker |  Vertical basket † |
| 1/4 | 7x7x7 | 0.50 | 0.38 | 1.0 |
| 3/8 | 7x7x7 | 1.1 | 0.81 | 2.2 |
| 1/2 | 7x7x7 | 1.8 | 1.4 | 3.7 |
| 5/8 | 7x7x7 | 2.8 | 2.1 | 5.5 |
| 3/4 | 7x7x7 | 3.8 | 2.9 | 7.6 |
| 5/8 | 7x7x19 | 2.9 | 2.2 | 5.8 |
| 3/4 | 7x7x19 | 4.1 | 3.0 | 8.1 |
| 7/8 | 7x7x19 | 5.4 | 4.0 | 11.0 |
| 1 | 7x7x19 | 6.9 | 5.1 | 14.0 |
| 1 1/8 | 7x7x19 | 8.2 | 6.2 | 16.0 |
| 1 1/4 | 7x7x19 | 9.9 | 7.4 | 20.0 |
| 3/4 | ² 7x6x19 | 3.8 | 2.8 | 7.6 |
| 7/8 | ² 7x6x19 | 5.0 | 3.8 | 10.0 |
| 1 | ² 7x6x19 | 6.4 | 4.8 | 13.0 |
| 1 1/8 | ² 7x6x19 | 7.7 | 5.8 | 15.0 |
| 1 1/4 | ² 7x6x19 | 9.2 | 6.9 | 18.0 |
| 1 5/16 | ² 7x6x19 | 10.0 | 7.5 | 20.0 |
| 1 3/8 | ² 7x6x19 | 11.0 | 8.2 | 22.0 |
| 1 1/2 | ² 7x6x19 | 13.0 | 9.6 | 26.0 |




† These values only apply when the D/d ratio is 10 or greater where:

D=Diameter of curvature around which the body of the sling is bent.

d=Diameter of rope.

² IWRC.

TABLE H-6
RATED CAPACITIES FOR SINGLE LEG SLINGS
 8-Part and 6-Part Braided Rope
 6x7 and 6x19 Classification Improved Plow Steel Grade Rope
 7x7 Construction Galvanized Aircraft Grade Rope

| Component Ropes | | Rated capacities, tons (2,000 lb.) | | | | | |
|---------------------------|--------------|---|---|---|--------|--------|--------|
| Diameter r (inches) | Construction |  Vertical |  Choker |  Basket Vertical to 30° ¹ | | | |
| | | 8-Part | 6-Part | 8-Part | 6-Part | 8-Part | 6-Part |
| 3/32 | 6x7 | 0.42 | 0.32 | 0.32 | 0.24 | 0.74 | 0.55 |
| 1/8 | 6x7 | 0.76 | 0.57 | 0.57 | 0.42 | 1.3 | 0.96 |
| 3/16 | 6x7 | 1.7 | 1.3 | 1.3 | 0.94 | 2.9 | 2.2 |
| 3/32 | 7x7 | 0.51 | 0.39 | 0.38 | 0.29 | 0.89 | 0.67 |
| 1/8 | 7x7 | 0.95 | 0.71 | 0.71 | 0.53 | 1.6 | 1.2 |
| 3/16 | 7x7 | 2.1 | 1.5 | 1.5 | 1.2 | 3.6 | 2.7 |
| 3/16 | 6x19 | 1.7 | 1.3 | 1.3 | 0.98 | 3.0 | 2.2 |
| 1/4 | 6x19 | 3.1 | 2.3 | 2.3 | 1.7 | 5.3 | 4.0 |
| 5/16 | 6x19 | 4.8 | 3.6 | 3.6 | 2.7 | 8.3 | 6.2 |
| 3/8 | 6x19 | 6.8 | 5.1 | 5.1 | 3.8 | 12.0 | 8.9 |
| 7/16 | 6x19 | 9.3 | 6.9 | 6.9 | 5.2 | 16.0 | 12.0 |
| 1/2 | 6x19 | 12.0 | 9.0 | 9.0 | 6.7 | 21.0 | 15.0 |
| 9/16 | 6x19 | 15.0 | 11.0 | 11.0 | 8.5 | 26.0 | 20.0 |
| 5/8 | 6x19 | 19.0 | 14.0 | 14.0 | 10.0 | 32.0 | 24.0 |
| 3/4 | 6x19 | 27.0 | 20.0 | 20.0 | 15.0 | 46.0 | 35.0 |
| 7/8 | 6x19 | 36.0 | 27.0 | 27.0 | 20.0 | 62.0 | 47.0 |
| 1 | 6x19 | 47.0 | 35.0 | 35.0 | 26.0 | 81.0 | 61.0 |

¹ These values only apply when the D/d ratio is 20 or greater where:

D=Diameter of curvature around which the body of the sling is bent.

d=Diameter of component rope

TABLE H 7
RATED CAPACITIES FOR 2-LEG AND 3-LEG BRIDLE SLINGS
6x19 and 6x37 Classification Improved Plow Steel Grade Rope With Fiber Core (FC)

| Rope | | Rated Capacities, Tons (2,000 pounds) | | | | | | | | | | | |
|----------------------|--------------|--|----------|-----------|----------|--|----------|--|----------|-----------|----------|--|----------|
| Diameter (inches) | Construction | 2-leg Bridle Slings | | | | | | 3-leg Bridle Slings | | | | | |
| | | $30^{\circ+}$ (60°) ² | | 45° angle | | $60^{\circ+}$ (30°) ² | | $30^{\circ+}$ (60°) ² | | 45° angle | | $60^{\circ+}$ (30°) ² | |
| | | HT | MS | HT | MS | HT | MS | HT | MS | HT | MS | HT | MS |
| 1/4 | 6x19 | 0.8 5 | 0.8 8 | 0.7 0 | 0.7 2 | 0.4 9 | 0.5 1 | 1.3 | 1.3 | 1.0 | 1.1 | 0.7 4 | 0.7 6 |
| 5/16 | 6x19 | 1.3 | 1.4 | 1.1 | 1.1 | 0.7 6 | 0.7 9 | 2.0 | 2.0 | 1.6 | 1.7 | 1.1 | 1.2 |
| 3/8 | 6x19 | 1.8 | 1.9 | 1.5 | 1.6 | 1.1 | 1.1 | 2.8 | 2.9 | 2.3 | 2.4 | 1.6 | 1.7 |
| 7/16 | 6x19 | 2.5 | 2.6 | 2.0 | 2.2 | 1.4 | 1.5 | 3.7 | 4.0 | 3.0 | 3.2 | 2.1 | 2.3 |
| 1/2 | 6x19 | 3.2 | 3.4 | 2.6 | 2.8 | 1.8 | 2.0 | 4.8 | 5.1 | 3.9 | 4.2 | 2.8 | 3.0 |
| 9/16 | 6x19 | 4.0 | 4.3 | 3.2 | 3.5 | 2.3 | 2.5 | 6.0 | 6.5 | 4.9 | 5.3 | 3.4 | 3.7 |
| 5/8 | 6x19 | 4.8 | 5.3 | 4.0 | 4.4 | 2.8 | 3.1 | 7.3 | 8.0 | 5.9 | 6.5 | 4.2 | 4.6 |
| 3/4 | 6x19 | 6.8 | 7.6 | 5.5 | 6.2 | 3.9 | 4.4 | 10. 0 | 11. 0 | 8.3 | 9.3 | 5.8 | 6.6 |
| 7/8 | 6x19 | 8.9 | 10. 0 | 7.3 | 8.4 | 5.1 | 5.9 | 13. 0 | 15. 0 | 11. 0 | 13. 0 | 7.7 | 8.9 |
| 1 | 6x19 | 11. 0 | 13. 0 | 9.4 | 11. 0 | 6.7 | 7.7 | 17. 0 | 20. 0 | 14. 0 | 16. 0 | 10. 0 | 11. 0 |
| 1-1/8 | 6x19 | 14. 0 | 16. 0 | 12. 0 | 13. 0 | 8.4 | 9.5 | 22. 0 | 24. 0 | 18. 0 | 20. 0 | 13. 0 | 14. 0 |
| 1-1/4 | 6x37 | 17. 0 | 19. 0 | 14. 0 | 16. 0 | 9.8 | 11. 0 | 25. 0 | 29. 0 | 21. 0 | 23. 0 | 15. 0 | 17. 0 |
| 1-3/8 | 6x37 | 20. 0 | 23. 0 | 17. 0 | 19. 0 | 12. 0 | 13. 0 | 31. 0 | 35. 0 | 25. 0 | 28. 0 | 18. 0 | 20. 0 |
| 1-1/2 | 6x37 | 24. 0 | 27. 0 | 20. 0 | 22. 0 | 14. 0 | 16. 0 | 36. 0 | 41. 0 | 30. 0 | 33. 0 | 21. 0 | 24. 0 |
| 1-5/8 | 6x37 | 28. 0 | 32. 0 | 23. 0 | 26. 0 | 16. 0 | 18. 0 | 43. 0 | 48. 0 | 35. 0 | 39. 0 | 25. 0 | 28. 0 |
| 1-3/4 | 6x37 | 33. 0 | 37. 0 | 27. 0 | 30. 0 | 19. 0 | 21. 0 | 49. 0 | 56. 0 | 40. 0 | 45. 0 | 28. 0 | 32. 0 |
| 2 | 6x37 | 43. 0 | 48. 0 | 35. 0 | 39. 0 | 25. 0 | 28. 0 | 64. 0 | 72. 0 | 52. 0 | 59. 0 | 37. 0 | 41. 0 |

HT=Hand Tucked Splice.

MS=Mechanical Splice.

⁺Vertical Angles.²Horizontal Angles.

TABLE H-8
RATED CAPACITIES FOR 2-LEG AND 3-LEG BRIDLE SLINGS
~~6x19 and 6x37 Classification Improved Plow Steel Grade Rope With Independent Wire Rope Core~~
(IWRC)

| Rope | | Rated Capacities, Tons (2,000 pounds) | | | | | | | | | | | |
|---------------------------|--------------|---|----------|-----------|----------|---|----------|---|----------|-----------|----------|---|----------|
| Diameter F (inches) | Construction | 2-leg Bridle Slings | | | | | | 3-leg Bridle Slings | | | | | |
| | | 30° ¹ (60°) ² | | 45° angle | | 60° ¹ (30°) ² | | 30° ¹ (60°) ² | | 45° angle | | 60° ¹ (30°) ² | |
| | | HT | MS | HT | MS | HT | MS | HT | MS | HT | MS | HT | MS |
| 1/4 | 6x19 | 0.9 2 | 0.9 7 | 0.7 5 | 0.7 9 | 0.5 3 | 0.5 6 | 1.4 | 1.4 | 1.1 | 1.2 | 0.7 9 | 0.8 4 |
| 5/16 | 6x19 | 1.4 | 1.5 | 1.1 | 1.2 | 0.8 1 | 0.8 7 | 2.1 | 2.3 | 1.7 | 1.8 | 1.2 | 1.3 |
| 3/8 | 6x19 | 2.0 | 2.1 | 1.6 | 1.8 | 1.1 | 1.2 | 3.0 | 3.2 | 2.4 | 2.6 | 1.7 | 1.9 |
| 7/16 | 6x19 | 2.7 | 2.9 | 2.2 | 2.4 | 1.5 | 1.7 | 4.0 | 4.4 | 3.3 | 3.6 | 2.3 | 2.5 |
| 1/2 | 6x19 | 3.4 | 3.8 | 2.8 | 3.1 | 2.0 | 2.2 | 5.1 | 5.7 | 4.2 | 4.6 | 3.0 | 3.3 |
| 9/16 | 6x19 | 4.3 | 4.8 | 3.5 | 3.9 | 2.5 | 2.7 | 6.4 | 7.1 | 5.2 | 5.8 | 3.7 | 4.1 |
| 5/8 | 6x19 | 5.2 | 5.9 | 4.2 | 4.8 | 3.0 | 3.4 | 7.8 | 8.8 | 6.4 | 7.2 | 4.5 | 5.1 |
| 3/4 | 6x19 | 7.3 | 8.4 | 5.9 | 6.9 | 4.2 | 4.9 | 11. 0 | 13. 0 | 8.9 | 10. 0 | 6.3 | 7.3 |
| 7/8 | 6x19 | 9.6 | 11. 0 | 7.8 | 9.3 | 5.5 | 6.6 | 14. 0 | 17. 0 | 12. 0 | 14. 0 | 8.3 | 9.9 |
| 1 | 6x19 | 12. 0 | 15. 0 | 10. 0 | 12. 0 | 7.2 | 8.5 | 19. 0 | 22. 0 | 15. 0 | 18. 0 | 11. 0 | 13. 0 |
| 1-1/8 | 6x19 | 16. 0 | 18. 0 | 13. 0 | 15. 0 | 9.0 | 10. 0 | 23. 0 | 27. 0 | 19. 0 | 22. 0 | 13. 0 | 16. 0 |
| 1-1/4 | 6x37 | 18. 0 | 21. 0 | 15. 0 | 17. 0 | 10. 0 | 12. 0 | 27. 0 | 32. 0 | 22. 0 | 26. 0 | 16. 0 | 18. 0 |
| 1-3/8 | 6x37 | 22. 0 | 25. 0 | 18. 0 | 21. 0 | 13. 0 | 15. 0 | 33. 0 | 38. 0 | 27. 0 | 31. 0 | 19. 0 | 22. 0 |
| 1-1/2 | 6x37 | 26. 0 | 30. 0 | 21. 0 | 25. 0 | 15. 0 | 17. 0 | 39. 0 | 45. 0 | 32. 0 | 37. 0 | 23. 0 | 26. 0 |
| 1-5/8 | 6x37 | 31. 0 | 35. 0 | 25. 0 | 29. 0 | 18. 0 | 20. 0 | 46. 0 | 53. 0 | 38. 0 | 43. 0 | 27. 0 | 31. 0 |
| 1-3/4 | 6x37 | 35. 0 | 41. 0 | 29. 0 | 33. 0 | 20. 0 | 24. 0 | 53. 0 | 61. 0 | 43. 0 | 50. 0 | 31. 0 | 35. 0 |
| 2 | 6x37 | 46. 0 | 53. 0 | 37. 0 | 43. 0 | 26. 0 | 30. 0 | 68. 0 | 79. 0 | 56. 0 | 65. 0 | 40. 0 | 46. 0 |

HT=Hand Tucked Splice.

MS=Mechanical Splice.

¹ Vertical Angles.² Horizontal Angles.




TABLE H-9
RATED CAPACITIES FOR 2-LEG AND 3-LEG BRIDLE SLINGS
Cable Laid Rope—Mechanical Splice Only
7x7x7 and 7x7x19 Construction Galvanized Aircraft Grade Rope
7x6x19 IWRC Construction Improved Plow Steel Grade Rope

| Rope | | Rated Capacities, Tons (2,000 pounds) | | | | | |
|----------------------|----------------|---------------------------------------|--------------|--------------|---------------------|--------------|--------------|
| Diameter (inches) | Construction | 2-leg Bridle Slings | | | 3-leg Bridle Slings | | |
| | | 30° (60°) | 45° angle | 60° (30°) | 30° (60°) | 45° angle | 60° (30°) |
| 1/4 | 7x7x7 | 0.87 | 0.71 | 0.50 | 1.3 | 1.1 | 0.75 |
| 3/8 | 7x7x7 | 1.9 | 1.5 | 1.1 | 2.8 | 2.3 | 1.6 |
| 1/2 | 7x7x7 | 3.2 | 2.6 | 1.8 | 4.8 | 3.9 | 2.8 |
| 5/8 | 7x7x7 | 4.8 | 3.9 | 2.8 | 7.2 | 5.9 | 4.2 |
| 3/4 | 7x7x7 | 6.6 | 5.4 | 3.8 | 9.9 | 8.1 | 5.7 |
| 5/8 | 7x7x19 | 5.0 | 4.1 | 2.9 | 7.5 | 6.1 | 4.3 |
| 3/4 | 7x7x19 | 7.0 | 5.7 | 4.1 | 10.0 | 8.6 | 6.1 |
| 7/8 | 7x7x19 | 9.3 | 7.6 | 5.4 | 14.0 | 11.0 | 8.1 |
| 1 | 7x7x19 | 12.0 | 9.7 | 6.9 | 18.0 | 14.0 | 10.0 |
| 1-1/8 | 7x7x19 | 14.0 | 12.0 | 8.2 | 21.0 | 17.0 | 12.0 |
| 1-1/4 | 7x7x19 | 17.0 | 14.0 | 9.9 | 26.0 | 21.0 | 15.0 |
| 3/4 | 7x6x19 IWRC | 6.6 | 5.4 | 3.8 | 9.9 | 8.0 | 5.7 |
| 7/8 | 7x6x19 IWRC | 8.7 | 7.1 | 5.0 | 13.0 | 11.0 | 7.5 |
| 1 | 7x6x19 IWRC | 11.0 | 9.0 | 6.4 | 17.0 | 13.0 | 9.6 |
| 1-1/8 | 7x6x19 IWRC | 13.0 | 11.0 | 7.7 | 20.0 | 16.0 | 11.0 |
| 1-1/4 | 7x6x19 IWRC | 16.0 | 13.0 | 9.2 | 24.0 | 20.0 | 14.0 |
| 1-5/16 | 7x6x19 IWRC | 17.0 | 14.0 | 10.0 | 26.0 | 21.0 | 15.0 |
| 1-3/8 | 7x6x19 IWRC | 19.0 | 15.0 | 11.0 | 28.0 | 23.0 | 16.0 |
| 1-1/2 | 7x6x19 IWRC | 22.0 | 18.0 | 13.0 | 33.0 | 27.0 | 19.0 |

TABLE H-10
RATED CAPACITIES FOR 2-LEG AND 3-LEG BRIDLE SLINGS
 8-Part and 6-Part Braided Rope
 6x7 and 6x19 Construction Improved Plow Steel Grade Rope
 7x7 Construction Galvanized Aircraft Grade Rope

| Rope | | Rated Capacities, tons (2,000 pounds) | | | | | | | | | | | |
|----------------------|--------------|--|------------|------------|------------|--|------------|--|------------|------------|------------|--|------------|
| Diameter (inches) | Construction | 2-leg Bridle Slings | | | | | | 3-leg Bridle Slings | | | | | |
| | | 30° [±] (60°) ² | | 45° Angle | | 60° [±] (30°) ² | | 30° [±] (60°) ² | | 45° Angle | | 60° [±] (30°) ² | |
| | | 8- Part | 6- Part | 8- Part | 6- Part | 8- Part | 6- Part | 8- Part | 6- Part | 8- Part | 6- Part | 8- Part | 6- Part |
| 3/32 | 6x7 | 0.7 4 | 0.5 5 | 0.6 0 | 0.4 5 | 0.4 2 | 0.3 2 | 1.1 | 0.8 3 | 0.9 0 | 0.6 8 | 0.6 4 | 0.4 8 |
| 1/8 | 6x7 | 1.3 | 0.9 8 | 1.1 | 0.8 0 | 0.7 6 | 0.5 7 | 2.0 | 1.5 | 1.6 | 1.2 | 1.1 | 0.8 5 |
| 3/16 | 6x7 | 2.9 | 2.2 | 2.4 | 1.8 | 1.7 | 1.3 | 4.4 | 3.3 | 3.6 | 2.7 | 2.5 | 1.9 |
| 3/32 | 7x7 | 0.8 9 | 0.6 7 | 0.7 2 | 0.5 5 | 0.5 1 | 0.3 9 | 1.3 | 1.0 | 1.1 | 0.8 2 | 0.7 7 | 0.5 8 |
| 1/8 | 7x7 | 1.6 | 1.2 | 1.3 | 1.0 | 0.9 5 | 0.7 1 | 2.5 | 1.8 | 2.0 | 1.5 | 1.4 | 1.1 |
| 3/16 | 7x7 | 3.6 | 2.7 | 2.9 | 2.2 | 2.1 | 1.5 | 5.4 | 4.0 | 4.4 | 3.3 | 3.1 | 2.3 |
| 3/16 | 6x19 | 3.0 | 2.2 | 2.4 | 1.8 | 1.7 | 1.3 | 4.5 | 3.4 | 3.7 | 2.8 | 2.6 | 1.9 |
| 1/4 | 6x19 | 5.3 | 4.0 | 4.3 | 3.2 | 3.1 | 2.3 | 8.0 | 6.0 | 6.5 | 4.9 | 4.6 | 3.4 |
| 5/16 | 6x19 | 8.3 | 6.2 | 6.7 | 5.0 | 4.8 | 3.6 | 12. 0 | 9.3 | 10. 0 | 7.6 | 7.1 | 5.4 |
| 3/8 | 6x19 | 12. 0 | 8.9 | 9.7 | 7.2 | 6.8 | 5.1 | 18. 0 | 13. 0 | 14. 0 | 11. 0 | 10. 0 | 7.7 |
| 7/16 | 6x19 | 16. 0 | 12. 0 | 13. 0 | 9.8 | 9.3 | 6.9 | 24. 0 | 18. 0 | 20. 0 | 15. 0 | 14. 0 | 10. 0 |
| 1/2 | 6x19 | 21. 0 | 15. 0 | 17. 0 | 13. 0 | 12. 0 | 9.0 | 31. 0 | 23. 0 | 25. 0 | 19. 0 | 18. 0 | 13. 0 |
| 9/16 | 6x19 | 26. 0 | 20. 0 | 21. 0 | 16. 0 | 15. 0 | 11. 0 | 39. 0 | 29. 0 | 32. 0 | 24. 0 | 23. 0 | 17. 0 |
| 5/8 | 6x19 | 32. 0 | 24. 0 | 26. 0 | 20. 0 | 19. 0 | 14. 0 | 48. 0 | 36. 0 | 40. 0 | 30. 0 | 28. 0 | 21. 0 |
| 3/4 | 6x19 | 46. 0 | 35. 0 | 38. 0 | 28. 0 | 27. 0 | 20. 0 | 69. 0 | 52. 0 | 56. 0 | 42. 0 | 40. 0 | 30. 0 |
| 7/8 | 6x19 | 62. 0 | 47. 0 | 51. 0 | 38. 0 | 36. 0 | 27. 0 | 94. 0 | 70. 0 | 76. 0 | 57. 0 | 54. 0 | 40. 0 |
| 1 | 6x19 | 81. 0 | 61. 0 | 66. 0 | 50. 0 | 47. 0 | 35. 0 | 122. 0 | 91. 0 | 99. 0 | 74. 0 | 70. 0 | 53. 0 |

TABLE H-11
RATED CAPACITIES FOR STRAND LAID GROMMET – HAND TUCKED
Improved Plow Steel Grade Rope




| Rope Body | | Rated Capacities, tons (2,000 pounds) | | |
|----------------------|--------------|---|---|--|
| Diameter (inches) | Construction |  Vertical |  Choker |  Vertical Basket [†] |
| 1/4 | 7x19 | 0.85 | 0.64 | 1.7 |
| 5/16 | 7x19 | 1.3 | 1.0 | 2.6 |
| 3/8 | 7x19 | 1.9 | 1.4 | 3.8 |
| 7/16 | 7x19 | 2.6 | 1.9 | 5.2 |
| 1/2 | 7x19 | 3.3 | 2.5 | 6.7 |
| 9/16 | 7x19 | 4.2 | 3.1 | 8.4 |
| 5/8 | 7x19 | 5.2 | 3.9 | 10.0 |
| 3/4 | 7x19 | 7.4 | 5.6 | 15.0 |
| 7/8 | 7x19 | 10.0 | 7.5 | 20.0 |
| 1 | 7x19 | 13.0 | 9.7 | 26.0 |
| 1 1/8 | 7x19 | 16.0 | 12.0 | 32.0 |
| 1 1/4 | 7x37 | 18.0 | 14.0 | 37.0 |
| 1 3/8 | 7x37 | 22.0 | 16.0 | 44.0 |
| 1 1/2 | 7x37 | 26.0 | 19.0 | 52.0 |

[†]These values only apply when the D/d ratio is 5 or greater where:

D=Diameter of curvature around which rope is bent.

d=Diameter of rope body.

TABLE H-12
RATED CAPACITIES FOR CABLE LAID GROMMET—HAND TUCKED
~~7x6x7 and 7x6x19 Construction Improved Plow Steel Grade Rope~~
~~7x7x7 Construction Galvanized Aircraft Grade Rope~~




| Cable Body | | Rated Capacities, tons (2,000 pounds) | | |
|----------------------|--------------|---|---|--|
| Diameter (inches) | Construction |  Vertical |  Choker |  Vertical Basket [†] |
| 3/8 | 7x6x7 | 1.3 | 0.95 | 2.5 |
| 9/16 | 7x6x7 | 2.8 | 2.1 | 5.6 |
| 5/8 | 7x6x7 | 3.8 | 2.8 | 7.6 |
| 3/8 | 7x7x7 | 1.6 | 1.2 | 3.2 |
| 9/16 | 7x7x7 | 3.5 | 2.6 | 6.9 |
| 5/8 | 7x7x7 | 4.5 | 3.4 | 9.0 |
| 5/8 | 7x6x19 | 3.9 | 3.0 | 7.9 |
| 3/4 | 7x6x19 | 5.1 | 3.8 | 10.0 |
| 15/16 | 7x6x19 | 7.9 | 5.9 | 16.0 |
| 1-1/8 | 7x6x19 | 11.0 | 8.4 | 22.0 |
| 1-5/16 | 7x6x19 | 15.0 | 11.0 | 30.0 |
| 1-1/2 | 7x9x19 | 19.0 | 14.0 | 39.0 |
| 1-11/16 | 7x6x19 | 24.0 | 18.0 | 49.0 |
| 1-7/8 | 7x6x19 | 30.0 | 22.0 | 60.0 |
| 2-1/4 | 7x6x19 | 42.0 | 31.0 | 84.0 |
| 2-5/8 | 7x6x19 | 56.0 | 42.0 | 112.0 |

[†] These values only apply when the D/d ratio is 5 or greater where:

D=Diameter of curvature around which rope is bent.

D=Diameter of rope body.

TABLE H-13
RATED CAPACITIES FOR STRAND LAID ENDLESS SLINGS MECHANICAL
JOINT
Improved Plow Steel Grade Rope

| Rope Body | | Rated Capacities, tons (2,000 pounds) | | |
|----------------------|--------------|---|---|--|
| Diameter (inches) | Construction |  Vertical |  Choker |  Vertical Basket [†] |
| 1/4 | 6x19 IWRC | 0.92 | 0.69 | 1.8 |
| 3/8 | 6x19 IWRC | 2.0 | 1.5 | 4.1 |
| 1/2 | 6x19 IWRC | 3.6 | 2.7 | 7.2 |
| 5/8 | 6x19 IWRC | 5.6 | 4.2 | 11.0 |
| 3/4 | 6x19 IWRC | 8.0 | 6.0 | 16.0 |
| 7/8 | 6x19 IWRC | 11.0 | 8.1 | 21.0 |
| 1 | 6x19 IWRC | 14.0 | 10.0 | 28.0 |
| 1 1/8 | 6x19 IWRC | 18.0 | 13.0 | 35.0 |
| 1 1/4 | 6x37 IWRC | 21.0 | 15.0 | 41.0 |
| 1 3/8 | 6x37 IWRC | 25.0 | 19.0 | 50.0 |
| 1 1/2 | 6x37 IWRC | 29.0 | 22.0 | 59.0 |




[†] These values only apply when the D/d ratio is 5 or greater where:

D=Diameter of curvature around which rope is bent.

d=Diameter of rope body.

TABLE H-14
RATED CAPACITIES FOR CABLE LAID ENDLESS SLINGS—MECHANICAL
JOINT

~~7x7x7 and 7x7x19 Construction Galvanized Aircraft Grade Rope~~
~~7x6x19 IWRC Construction Improved Plow Steel Grade Rope~~

| Cable Body | | Rated Capacities, tons (2,000 pounds) | | |
|----------------------|--------------|---|---|--|
| Diameter (inches) | Construction |  Vertical |  Choker |  Vertical Basket [†] |
| 1/4 | 7x7x7 | 0.83 | 0.62 | 1.6 |
| 3/8 | 7x7x7 | 1.8 | 1.3 | 3.5 |
| 1/2 | 7x7x7 | 3.0 | 2.3 | 6.1 |
| 5/8 | 7x7x7 | 4.5 | 3.4 | 9.1 |
| 3/4 | 7x7x7 | 6.3 | 4.7 | 12.0 |
| 5/8 | 7x7x19 | 4.7 | 3.5 | 9.5 |
| 3/4 | 7x7x19 | 6.7 | 5.0 | 13.0 |
| 7/8 | 7x7x19 | 8.9 | 6.6 | 18.0 |
| 1 | 7x7x19 | 11.0 | 8.5 | 22.0 |
| 1 1/8 | 7x7x19 | 14.0 | 10.0 | 28.0 |
| 1 1/4 | 7x7x19 | 17.0 | 12.0 | 33.0 |
| 3/4 | 7x7x19 IWRC | 6.2 | 4.7 | 12.0 |
| 7/8 | 7x7x19 IWRC | 8.3 | 6.2 | 16.0 |
| 1 | 7x7x19 IWRC | 10.0 | 7.9 | 21.0 |
| 1 1/8 | 7x7x19 IWRC | 13.0 | 9.7 | 26.0 |
| 1 1/4 | 7x7x19 IWRC | 16.0 | 12.0 | 31.0 |
| 1 3/8 | 7x7x19 IWRC | 18.0 | 14.0 | 37.0 |
| 1 1/2 | 7x7x19 IWRC | 22.0 | 16.0 | 43.0 |

[†] These values only apply when the D/d ratio is 5 or greater where:

D=Diameter of curvature around which rope is bent.

D=Diameter of rope body.

R 408.14932 ~~Wire rope slings; minimum~~ **Minimum sling** lengths.

Rule 4932. (1) Cable laid and a 6 x 19 and 6 x 37 sling shall have a minimum clear length of wire rope 10 times the component rope diameter between splices, sleeves, or end fittings.

(2) A braided sling shall have a minimum clear length of wire rope 40 times the component rope diameter between the loops or end fittings.

(3) A cable laid grommet, strand laid grommet, and endless sling shall have a minimum circumferential length of 96 times their body diameter.

R 408.14933 ~~Wire rope slings; welded~~ **Welded** end attachment; certificate of proof test.

Rule 4933. (1) Welding of an end attachment, except covers to thimbles, shall be performed prior to the assembly of the sling.

(2) All welded end attachments shall not be used unless proof tested by the manufacturer at twice their rated capacity prior to initial use. The employer shall retain a certificate of the proof test, and make it available for examination.

R 408.14934 ~~Wire rope slings; removal~~ **Removal** from service.

Rule 4934. A wire rope sling shall be removed from service if any of the following conditions are present:

(a) Ten randomly distributed broken wires in 1 rope lay, or 5 broken wires in 1 strand in 1 rope lay.

(b) Wear or scraping of 1/3 the original diameter of outside individual wires.

(c) Kinking, crushing, bird caging, or any other damage resulting in distortion of the wire rope structure.

(d) Evidence of heat damage.

(e) End attachments that are cracked, deformed, or worn.

(f) Hooks that have been opened more than 15% of the normal throat opening measured at the narrowest point, or twisted more than 10 degrees from the plane of the unbent hook.

(g) Corrosion of the rope or end attachments.

R 408.14935 ~~Wire rope slings; forming~~ **Forming** eyes.

Rule 4935. An eye in a wire rope sling shall not be formed by using a knot or a wire rope clip.

METAL MESH SLINGS

R 408.14941 ~~Metal mesh slings;~~ **Sling** marking; rated capacity; coatings.

Rule 4941. (1) Each metal mesh sling shall have permanently affixed to it a durable marking that states the rated capacity for vertical basket hitch and choker hitch loadings.

(2) A handle shall have a rated capacity at least equal to the metal fabric and exhibit no deformation after proof testing.

(3) Coatings which diminish the rated capacity of a sling shall not be applied.

R 408.14942 ~~Metal mesh slings; attachment~~ **Attachment** of handle.

Rule 4942. The fabric and handles shall be joined ~~so that:~~ **to ensure all of the following:**

(a) The rated capacity of the sling is not reduced.

(b) The load is evenly distributed across the width of the fabric.

(c) Sharp edges will not damage the fabric.

R 408.14943 ~~Metal mesh slings;~~ **Sling** testing.

Rule 4943. All new and repaired metal mesh slings, including handles, shall not be used unless proof tested by the manufacturer at a minimum of 1 1/2 times their rated capacity. Elastomer impregnated slings shall be proof tested before coating.

R 408.14944 ~~Metal mesh slings; Sling use; safe operating temperatures. temperature limits.~~

Rule 4944. (1) A metal mesh sling shall not be used to lift loads in excess of their rated capacities. ~~as prescribed in Table 15.~~







(2) A sling ~~not included in this table~~ shall be used only in accordance with the manufacturer's recommendations.

(3) A metal mesh sling which is not impregnated with elastomers may be used in a temperature range from minus 20 degrees Fahrenheit to plus 550 degrees Fahrenheit without decreasing the working load limit. ~~A metal mesh sling impregnated with polyvinyl chloride or neoprene may be used only in a temperature range from zero degrees to plus 200 degrees Fahrenheit. For operations outside these temperature ranges or for metal mesh slings impregnated with other materials, the sling manufacturer's recommendations shall be followed.~~

(4) A metal mesh sling impregnated with polyvinyl chloride or neoprene may be used only in a temperature range from zero degrees to plus 200 degrees Fahrenheit.

(5) For operations outside these temperature ranges in subrule (3) and (4) of this rule or for metal mesh slings impregnated with other materials, the sling manufacturer's recommendations shall be followed.

TABLE H-15
Rated Capacities
Carbon Steel & Stainless Steel
Metal Mesh Slings

| SLING WIDTH IN INCHES |  |  |  | EFFECT OF ANGLE ON RATED CAPACITIES IN BASKET HITCH | | |
|--------------------------------|---|---|---|---|--|---|
| | | | |  |  |  |

Heavy Duty 10 Ga 35 Spirals/Ft. of sling width

| | | | | | |
|----|--------|--------|--------|--------|--------|
| 2 | 1,500 | 3,000 | 2,600 | 2,100 | 1,500 |
| 3 | 2,700 | 5,400 | 4,700 | 3,800 | 2,700 |
| 4 | 4,000 | 8,000 | 6,900 | 5,600 | 4,000 |
| 6 | 6,000 | 12,000 | 10,400 | 8,400 | 6,000 |
| 8 | 8,000 | 16,000 | 13,800 | 11,300 | 8,000 |
| 10 | 10,000 | 20,000 | 17,000 | 14,100 | 10,000 |
| 12 | 12,000 | 24,000 | 20,700 | 16,900 | 12,000 |
| 14 | 14,000 | 28,000 | 24,200 | 19,700 | 14,000 |
| 16 | 16,000 | 32,000 | 27,700 | 22,600 | 16,000 |
| 18 | 18,000 | 36,000 | 31,100 | 25,400 | 18,000 |
| 20 | 20,000 | 40,000 | 34,600 | 28,200 | 20,000 |

Medium Duty 12 Ga 43 Spirals/Ft. of sling width

| | | | | | |
|----|--------|--------|--------|--------|--------|
| 2 | 1,350 | 2,700 | 2,300 | 1,900 | 1,400 |
| 3 | 2,000 | 4,000 | 3,500 | 2,800 | 2,000 |
| 4 | 2,700 | 5,400 | 4,700 | 3,800 | 2,700 |
| 6 | 4,500 | 9,000 | 7,800 | 6,400 | 4,500 |
| 8 | 6,000 | 12,000 | 10,400 | 8,500 | 6,000 |
| 10 | 7,500 | 15,000 | 13,000 | 10,600 | 7,500 |
| 12 | 9,000 | 18,000 | 15,600 | 12,700 | 9,000 |
| 14 | 10,500 | 21,000 | 18,200 | 14,800 | 10,500 |
| 16 | 12,000 | 24,000 | 20,800 | 17,000 | 12,000 |
| 18 | 13,500 | 27,000 | 23,400 | 19,100 | 13,500 |
| 20 | 15,000 | 30,000 | 26,000 | 21,200 | 15,000 |

Light Duty 14 Ga 59 Spirals/Ft of sling width

| | | | | | |
|---|-------|-------|-------|-------|-------|
| 2 | 900 | 1,800 | 1,600 | 1,300 | 900 |
| 3 | 1,400 | 2,800 | 2,400 | 2,000 | 1,400 |
| 4 | 2,000 | 4,000 | 3,500 | 2,800 | 2,000 |

| | | | | | |
|----|--------|--------|--------|--------|--------|
| 6 | 3,000 | 6,000 | 5,200 | 4,200 | 3,000 |
| 8 | 4,000 | 8,000 | 6,900 | 5,700 | 4,000 |
| 10 | 5,000 | 10,000 | 8,600 | 7,100 | 5,000 |
| 12 | | 12,000 | 10,400 | 8,500 | 6,000 |
| 14 | 6,000 | 14,000 | 12,100 | 9,900 | 7,000 |
| 16 | 8,000 | 16,000 | 13,900 | 11,300 | 8,000 |
| 18 | 9,000 | 18,000 | 15,600 | 12,700 | 9,000 |
| 20 | 10,000 | 20,000 | 17,300 | 14,100 | 10,000 |

R 408.14945 ~~Metal mesh slings; removal~~ **Removal** from service; repairs; records.

Rule 4945. (1) A metal mesh sling shall be immediately removed from service if any of the following conditions are present:

- (a) A broken weld or broken brazed joint along the sling edge.
- (b) Reduction in wire diameter of 25% due to abrasion or 15% due to corrosion.
- (c) Lack of flexibility due to distortion of the fabric.
- (d) Distortion of the female handle so that the depth of the slot is increased more than 10%.
- (e) Distortion of either handle so that the width of the eye is decreased more than 10%.
- (f) A 15% reduction of the original cross sectional area of metal at any point around the handle eye.

(g) Distortion of either handle out of its plane.

(2) A metal mesh sling which is repaired shall not be used unless repaired by a metal mesh sling manufacturer.

(3) Once repaired, each sling shall be permanently marked or tagged, or a written record maintained, to indicate the date and nature of the repairs and the person or organization that performed the repairs. Records of repairs shall be made available for examination.

NATURAL AND SYNTHETIC FIBER ROPE SLINGS

R 408.14951 ~~Natural and synthetic fiber rope slings; rated~~ **Sling use; rated** capacity; diameter of curvature; ~~temperature limits.~~ **safe operating temperatures.**

Rule 4951. (1) A fiber rope sling made from conventional 3 strand construction fiber rope shall not be used with a load in excess of the rated capacities. ~~prescribed in Tables 16 to 19.~~

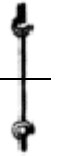

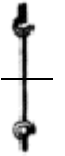
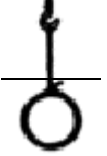
(2) A fiber rope sling shall have a diameter of curvature meeting not less than the minimums prescribed in figures 4 and 5.

(3) A sling ~~not included in these tables~~ shall be used only in accordance with the manufacturer's recommendations.

(4) A natural or synthetic fiber rope sling, except for a wet frozen sling, may be used in a temperature range from minus 20 degrees Fahrenheit to plus 180 degrees Fahrenheit without decreasing the working load limit. For operations outside this temperature range and for wet frozen slings, the sling manufacturer's recommendations shall be followed.





(5) **Employers shall use natural and synthetic fiber-rope slings that have permanently affixed and legible identification markings stating the rated capacity for the type of hitch used and the angle upon which it is based, type of fiber material, and the number of legs if more than 1.**

TABLE 16
MANILA ROPE SLINGS

| Rope Diameter Nominal in Inches | Nominal Weight per 100 Feet in Pounds | Capacity is in Pounds | | | | | | | | | | | |
|--|---|--|--|--|--------------|--------------|--------------|--|--|--|--------------|--------------|--------------|
| | | Eye and Eye Sling | | | | | | Endless Sling | | | | | |
| | |  Vertical Hitch |  Choker Hitch | Basket Hitch; Angle of Rope to Horizontal | | | |  Vertical Hitch |  Choker Hitch | Basket Hitch; Angle of Rope to Horizontal | | | |
| | | | | 90°(0°) | 60°(30°) | 45°(45°) | 30°(60°) | | | 90°(0°) | 60°(30°) | 45°(45°) | 30°(60°) |
| 1/2 | 7.5 | 480 | 240 | 960 | 830 | 680 | 480 | 865 | 430 | 1,730 | 1,500 | 1,220 | 865 |
| 9/16 | 10.4 | 620 | 310 | 1,240 | 1,070 | 875 | 620 | 1,120 | 560 | 2,230 | 1,930 | 1,580 | 1,120 |
| 5/8 | 13.3 | 790 | 395 | 1,580 | 1,370 | 1,120 | 790 | 1,420 | 710 | 2,840 | 2,460 | 2,010 | 1,420 |
| 3/4 | 16.7 | 970 | 485 | 1,940 | 1,680 | 1,370 | 970 | 1,750 | 875 | 3,490 | 3,020 | 2,470 | 1,750 |
| 13/16 | 19.5 | 1,170 | 585 | 2,340 | 2,030 | 1,650 | 1,170 | 2,110 | 1,050 | 4,210 | 3,650 | 2,980 | 2,110 |
| 7/8 | 22.5 | 1,390 | 695 | 2,780 | 2,410 | 1,970 | 1,390 | 2,500 | 1,250 | 5,000 | 4,330 | 3,540 | 2,500 |
| 1 | 27.0 | 1,620 | 810 | 3,240 | 2,810 | 2,290 | 1,620 | 2,920 | 1,460 | 5,830 | 5,050 | 4,120 | 2,920 |
| 1 1/16 | 31.3 | 1,890 | 945 | 3,780 | 3,270 | 2,670 | 1,890 | 3,400 | 1,700 | 6,800 | 5,890 | 4,810 | 3,400 |
| 1 1/8 | 36.0 | 2,160 | 1,080 | 4,320 | 3,740 | 3,050 | 2,160 | 3,890 | 1,940 | 7,780 | 6,730 | 5,500 | 3,890 |
| 1 1/4 | 41.7 | 2,430 | 1,220 | 4,860 | 4,210 | 3,440 | 2,430 | 4,370 | 2,190 | 8,750 | 7,580 | 6,190 | 4,370 |
| 1 5/16 | 47.9 | 2,700 | 1,350 | 5,400 | 4,680 | 3,820 | 2,700 | 4,860 | 2,430 | 9,720 | 8,420 | 6,870 | 4,860 |
| 1 1/2 | 59.9 | 3,330 | 1,670 | 6,660 | 5,770 | 4,710 | 3,330 | 5,990 | 3,000 | 12,000 | 10,400 | 8,480 | 5,990 |
| 1 5/8 | 74.6 | 4,050 | 2,030 | 8,100 | 7,010 | 5,730 | 4,050 | 7,290 | 2,650 | 14,600 | 12,600 | 10,300 | 7,290 |
| 1 3/4 | 89.3 | 4,770 | 2,390 | 9,540 | 8,260 | 6,740 | 4,770 | 8,590 | 4,290 | 17,200 | 14,900 | 12,100 | 8,590 |
| 2 | 107.5 | 5,580 | 2,790 | 11,200 | 9,660 | 7,890 | 5,580 | 10,000 | 5,020 | 20,100 | 17,400 | 14,200 | 10,000 |
| 2 1/3 | 125.0 | 6,480 | 3,240 | 13,000 | 11,200 | 9,160 | 6,480 | 11,700 | 5,830 | 23,300 | 20,200 | 16,500 | 11,700 |
| 2 1/4 | 146.0 | 7,380 | 3,690 | 14,800 | 12,800 | 10,400 | 7,380 | 13,300 | 6,640 | 26,600 | 23,000 | 18,800 | 13,300 |
| 2 1/2 | 166.7 | 8,370 | 4,190 | 16,700 | 14,500 | 11,800 | 8,370 | 15,100 | 7,530 | 30,100 | 26,100 | 21,300 | 15,100 |
| 2 5/8 | 190.8 | 9,360 | 4,680 | 18,700 | 16,200 | 13,200 | 9,360 | 16,800 | 8,420 | 33,700 | 29,200 | 23,800 | 16,800 |

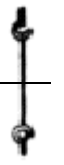
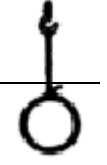
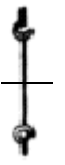
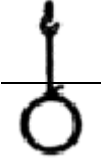
See figures 4 and 5 for sling configuration descriptions.

TABLE 17
NYLON ROPE SLINGS

| Rope Diameter Nominal in Inches | Nominal Weight per 100 Feet in Pounds | Capacity is in Pounds | | | | | | | | | | | |
|------------------------------------|--|---|---|--|---------------|---------------|---------------|---|---|--|---------------|---------------|---------------|
| | | Eye and Eye Sling | | | | | | Endless Sling | | | | | |
| | |  Vertical Hitch |  Choker Hitch | Basket Hitch; Angle of Rope to Horizontal | | | |  Vertical Hitch |  Choker Hitch | Basket Hitch; Angle of Rope to Horizontal | | | |
| | | | | 90°(0°) } | 60°(30°) } | 45°(45°) } | 30°(60°) } | | | 90°(0°) } | 60°(30°) } | 45°(45°) } | 30°(60°) } |
| 1/2 | 6.5 | 635 | 320 | 1,270 | 1,100 | 900 | 635 | 1,140 | 570 | 2,290 | 1,980 | 1,620 | 1,140 |
| 9/16 | 8.3 | 790 | 395 | 1,580 | 1,370 | 1,120 | 790 | 1,420 | 710 | 2,840 | 2,460 | 2,010 | 1,420 |
| 5/8 | 10.5 | 1,030 | 515 | 2,060 | 1,780 | 1,460 | 1,030 | 1,850 | 925 | 3,710 | 3,210 | 2,620 | 1,850 |
| 3/4 | 14.5 | 1,410 | 705 | 2,820 | 2,440 | 1,990 | 1,410 | 2,540 | 1,270 | 5,080 | 4,400 | 3,590 | 2,540 |
| 13/16 | 17.0 | 1,680 | 840 | 3,360 | 2,910 | 2,380 | 1,680 | 3,020 | 1,510 | 6,050 | 5,240 | 4,280 | 3,020 |
| 7/8 | 20.0 | 1,980 | 990 | 3,960 | 3,430 | 2,800 | 1,980 | 3,560 | 1,780 | 7,130 | 6,170 | 5,040 | 3,560 |
| 1 | 26.0 | 2,480 | 1,240 | 4,960 | 4,300 | 3,510 | 2,480 | 4,460 | 2,230 | 8,930 | 7,730 | 6,310 | 4,460 |
| 1-1/16 | 29.0 | 2,850 | 1,430 | 5,700 | 4,940 | 4,030 | 2,850 | 5,130 | 2,570 | 10,300 | 8,890 | 7,260 | 5,130 |
| 1-1/8 | 34.0 | 3,270 | 1,640 | 6,540 | 5,660 | 4,620 | 3,270 | 5,890 | 2,940 | 11,800 | 10,200 | 8,330 | 5,890 |
| 1-1/4 | 40.0 | 3,710 | 1,860 | 7,420 | 6,430 | 5,250 | 3,710 | 6,680 | 3,340 | 13,400 | 11,600 | 9,450 | 6,680 |
| 1-5/16 | 45.0 | 4,260 | 2,130 | 8,520 | 7,380 | 6,020 | 4,260 | 7,670 | 3,830 | 15,300 | 13,300 | 10,800 | 7,670 |
| 1-1/2 | 55.0 | 5,250 | 2,630 | 10,500 | 9,090 | 7,420 | 5,250 | 9,450 | 4,730 | 18,900 | 16,400 | 13,400 | 9,450 |
| 1-5/8 | 68.0 | 6,440 | 3,220 | 12,900 | 11,200 | 9,110 | 6,440 | 11,600 | 5,800 | 23,200 | 20,100 | 16,400 | 11,600 |
| 1-3/4 | 83.0 | 7,720 | 3,860 | 15,400 | 13,400 | 10,900 | 7,720 | 13,900 | 6,950 | 27,800 | 24,100 | 19,700 | 13,900 |
| 2 | 95.0 | 9,110 | 4,560 | 18,200 | 15,800 | 12,900 | 9,110 | 16,400 | 8,200 | 32,800 | 28,400 | 23,200 | 16,400 |
| 2-1/8 | 109.0 | 10,500 | 5,250 | 21,000 | 18,200 | 14,800 | 10,500 | 18,900 | 9,450 | 37,800 | 32,700 | 26,700 | 18,900 |
| 2-1/4 | 129.0 | 12,400 | 6,200 | 24,800 | 21,500 | 17,500 | 12,400 | 22,300 | 11,200 | 44,600 | 38,700 | 31,600 | 22,300 |
| 2-1/2 | 149.0 | 13,900 | 6,950 | 27,800 | 24,100 | 19,700 | 13,900 | 25,000 | 12,500 | 50,000 | 43,300 | 35,400 | 25,000 |
| 2-5/8 | 168.0 | 16,000 | 8,000 | 32,000 | 27,700 | 22,600 | 16,000 | 28,800 | 14,400 | 57,600 | 49,900 | 40,700 | 28,800 |


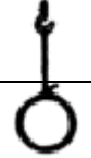

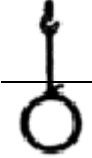
See figures 4 and 5 for sling configuration descriptions.

TABLE 18
POLYESTER ROPE SLINGS

| Rope Diameter Nominal in Inches | Nominal Weight per 100 Feet in Pounds | Capacity is in Pounds | | | | | | | | | | | |
|---------------------------------------|---|--|--|--|--------------|--------------|--------------|--|--|--|--------------|--------------|--------------|
| | | Eye and Eye Sling | | | | | | Endless Sling | | | | | |
| | |  Vertical Hitch |  Choker Hitch | Basket Hitch; Angle of Rope to Horizontal | | | |  Vertical Hitch |  Choker Hitch | Basket Hitch; Angle of Rope to Horizontal | | | |
| | | | | 90°(0°) | 60°(30°) | 45°(45°) | 30°(60°) | | | 90°(0°) | 60°(30°) | 45°(45°) | 30°(60°) |
| 1/2 | 8.0 | 635 | 320 | 1,270 | 1,100 | 900 | 635 | 1,140 | 570 | 2,290 | 1,980 | 1,620 | 1,140 |
| 9/16 | 10.2 | 790 | 395 | 1,580 | 1,370 | 1,120 | 790 | 1,420 | 710 | 2,840 | 2,460 | 2,010 | 1,420 |
| 5/8 | 13.0 | 990 | 495 | 1,980 | 1,710 | 1,400 | 990 | 1,780 | 890 | 3,570 | 3,090 | 2,520 | 1,780 |
| 3/4 | 17.5 | 1,240 | 620 | 2,480 | 2,150 | 1,750 | 1,240 | 2,230 | 1,120 | 4,470 | 3,870 | 3,160 | 2,230 |
| 13/16 | 21.0 | 1,540 | 770 | 3,080 | 2,670 | 2,180 | 1,540 | 2,770 | 1,390 | 5,540 | 4,800 | 3,920 | 2,770 |
| 7/8 | 25.0 | 1,780 | 890 | 3,560 | 3,080 | 2,520 | 1,780 | 3,200 | 1,600 | 6,410 | 5,550 | 4,530 | 3,200 |
| 1 | 30.5 | 2,180 | 1,090 | 4,360 | 3,780 | 3,080 | 2,180 | 3,920 | 1,960 | 7,850 | 6,800 | 5,550 | 3,920 |
| 1 1/16 | 34.5 | 2,530 | 1,270 | 5,060 | 4,380 | 3,580 | 2,530 | 4,550 | 2,280 | 9,110 | 7,990 | 6,440 | 4,550 |
| 1 1/8 | 40.0 | 2,920 | 1,460 | 5,840 | 5,060 | 4,130 | 2,920 | 5,260 | 2,630 | 10,500 | 9,100 | 7,440 | 5,260 |
| 1 1/4 | 46.3 | 3,290 | 1,650 | 6,580 | 5,700 | 4,650 | 3,290 | 5,920 | 2,960 | 11,800 | 10,300 | 8,380 | 5,920 |
| 1 5/16 | 52.5 | 3,710 | 1,860 | 7,420 | 6,430 | 5,250 | 3,710 | 6,680 | 3,340 | 13,400 | 11,600 | 9,450 | 6,680 |
| 1 1/2 | 66.8 | 4,630 | 2,320 | 9,260 | 8,020 | 6,550 | 4,630 | 8,330 | 4,170 | 16,700 | 14,400 | 11,800 | 8,330 |
| 1 5/8 | 82.0 | 5,640 | 2,820 | 11,300 | 9,770 | 7,980 | 5,640 | 10,200 | 5,080 | 20,300 | 17,600 | 14,400 | 10,200 |
| 1 3/4 | 98.0 | 6,710 | 3,360 | 13,400 | 11,600 | 9,490 | 6,710 | 12,100 | 6,040 | 24,200 | 20,900 | 17,100 | 12,100 |
| 2 | 118.0 | 7,920 | 3,960 | 15,800 | 13,700 | 11,200 | 7,920 | 14,300 | 7,130 | 28,500 | 24,700 | 20,200 | 14,300 |
| 2 1/8 | 135.0 | 9,110 | 4,460 | 18,200 | 15,800 | 12,900 | 9,110 | 16,400 | 8,200 | 32,800 | 28,400 | 23,200 | 16,400 |
| 2 1/4 | 157.0 | 10,600 | 5,300 | 21,200 | 18,400 | 15,000 | 10,600 | 19,100 | 9,540 | 38,200 | 33,100 | 27,000 | 19,100 |
| 2 1/2 | 181.0 | 12,100 | 6,050 | 24,200 | 21,000 | 17,100 | 12,100 | 21,800 | 10,900 | 43,600 | 37,700 | 30,800 | 21,800 |
| 2 5/8 | 205.0 | 13,600 | 6,800 | 27,200 | 23,600 | 19,200 | 13,600 | 24,500 | 12,200 | 49,000 | 42,400 | 34,600 | 24,500 |

See figures 4 and 5 for sling configuration descriptions.

TABLE 19
POLYPROPYLENE ROPE SLINGS

| Rope Diameter Nominal in Inches | Nominal Weight per 100 Feet in Pounds | 2013 MR 15 – September 1, 2013 Capacity is in Pounds | | | | | | | | | | | |
|---------------------------------------|--|---|---|--|----------|----------|----------|---|---|--|----------|----------|----------|
| | | Eye and Eye Sling | | | | | | Endless Sling | | | | | |
| | |  |  | Basket Hitch; Angle of Rope to Horizontal | | | |  |  | Basket Hitch; Angle of Rope to Horizontal | | | |
| | | Vertical Hitch | Choker Hitch | 90°(0°) | 60°(30°) | 45°(45°) | 30°(60°) | Vertical Hitch | Choker Hitch | 90°(0°) | 60°(30°) | 45°(45°) | 30°(60°) |
| 1/2 | 4.7 | 645 | 325 | 1,290 | 1,120 | 910 | 645 | 1,160 | 580 | 2,320 | 2,010 | 1,640 | 1,160 |
| 9/16 | 6.1 | 780 | 390 | 1,560 | 1,350 | 1,100 | 780 | 1,400 | 700 | 2,810 | 2,430 | 1,990 | 1,400 |
| 5/8 | 7.5 | 950 | 475 | 1,900 | 1,650 | 1,340 | 950 | 1,710 | 855 | 3,420 | 2,960 | 2,420 | 1,710 |
| 3/4 | 10.7 | 1,300 | 650 | 2,600 | 2,250 | 1,840 | 1,300 | 2,340 | 1,170 | 4,680 | 4,050 | 3,310 | 2,340 |
| 13/16 | 12.7 | 1,520 | 760 | 3,040 | 2,630 | 2,150 | 1,520 | 2,740 | 1,370 | 5,470 | 4,740 | 3,870 | 2,740 |
| 7/8 | 15.0 | 1,760 | 880 | 3,520 | 3,050 | 2,490 | 1,760 | 3,170 | 1,580 | 6,340 | 5,490 | 4,480 | 3,170 |
| 1 | 18.0 | 2,140 | 1,070 | 4,280 | 3,700 | 3,030 | 2,140 | 3,850 | 1,930 | 7,700 | 6,670 | 5,450 | 3,860 |
| 1-1/16 | 20.4 | 2,450 | 1,230 | 4,900 | 4,240 | 3,460 | 2,450 | 4,410 | 2,210 | 8,820 | 7,640 | 6,240 | 4,410 |
| 1-1/8 | 23.7 | 2,800 | 1,400 | 5,600 | 4,850 | 3,960 | 2,800 | 5,040 | 2,520 | 10,100 | 8,730 | 7,130 | 5,040 |
| 1-1/4 | 27.0 | 3,210 | 1,610 | 6,420 | 5,560 | 4,540 | 3,210 | 5,780 | 2,890 | 11,600 | 10,000 | 8,170 | 5,780 |
| 1-5/16 | 30.5 | 3,600 | 1,800 | 7,200 | 6,240 | 5,090 | 3,600 | 6,480 | 3,240 | 13,000 | 11,200 | 9,170 | 6,480 |
| 1-1/2 | 38.5 | 4,540 | 2,270 | 9,080 | 7,860 | 6,420 | 4,540 | 8,170 | 4,090 | 16,300 | 14,200 | 11,600 | 8,170 |
| 1-5/8 | 47.5 | 5,510 | 2,760 | 11,000 | 9,540 | 7,790 | 5,510 | 9,920 | 4,960 | 19,800 | 17,200 | 14,000 | 9,920 |
| 1-3/4 | 57.0 | 6,580 | 3,290 | 13,200 | 11,400 | 9,300 | 6,580 | 11,800 | 5,920 | 23,700 | 20,500 | 16,800 | 11,800 |
| 2 | 69.0 | 7,960 | 3,980 | 15,900 | 13,800 | 11,300 | 7,960 | 14,300 | 7,160 | 28,700 | 24,800 | 20,300 | 14,300 |
| 2-1/8 | 80.0 | 9,330 | 4,670 | 18,700 | 16,200 | 13,200 | 9,330 | 16,800 | 8,400 | 33,600 | 29,100 | 23,800 | 16,800 |
| 2-1/4 | 92.0 | 10,600 | 5,300 | 21,200 | 18,400 | 15,000 | 10,600 | 19,100 | 9,540 | 38,200 | 33,100 | 27,000 | 19,100 |
| 2-1/2 | 107.0 | 12,200 | 6,100 | 24,400 | 21,100 | 17,300 | 12,200 | 22,000 | 11,000 | 43,900 | 38,000 | 31,100 | 22,000 |
| 2-5/8 | 120.0 | 13,800 | 6,900 | 27,600 | 23,900 | 19,600 | 13,800 | 24,800 | 12,400 | 49,700 | 43,000 | 35,100 | 24,800 |

See figures 4 and 5 for sling configuration descriptions.

TABLE 20
Rated Capacity in Pounds, Synthetic Web Slings, 1,000 lbs. Per Inch of Width, Single Ply

| Sling Body Width | Triangle—Choker Slings, Type I Triangle—Triangle Slings, Type II Eye & Eye with Flat Eye Slings, Type III Eye & Eye with Twisted Eye Slings, Type IV | | | | Endless Slings, Type V | | | | Return Eye Slings, Type VI | | | |
|------------------|---|--|--|--|------------------------|--|--|--|----------------------------|--|--|--|
| | | | | | | | | | | | | |

TABLE 21
Rated Capacity in Pounds, Synthetic Web Slings, 1,200 Lbs. Per Inch of Width, Single Ply

| Sling Body Width, Inches | Triangle—Choker Slings, Type I Triangle—Triangle Slings, Type II Eye & Eye with Flat Eye Slings, Type III Eye & Eye with Twisted Eye Slings, Type IV | | | | | | Endless Slings, Type V | | | | | | Return Eye Slings, Type VI | | | | | |
|-----------------------------------|---|------------|---------------------|------------------|------------------|------------------|------------------------|------------|---------------------|------------------|------------------|------------------|----------------------------|------------|---------------------|------------------|------------------|------------------|
| | Vert. | Choke r | Vert. Baske t | 30 Baske t | 45 Baske t | 60 Baske t | Vert. | Choke r | Vert. Baske t | 30 Baske t | 45 Baske t | 60 Baske t | Vert. | Choke r | Vert. Baske t | 30 Baske t | 45 Baske t | 60 Baske t |
| 1 | 1,200 | 900 | 2,400 | 2,100 | 1,700 | 1,200 | 1,900 | 1,500 | 3,800 | 3,300 | 2,700 | 1,900 | 950 | 750 | 1,900 | 1,650 | 1,350 | 950 |
| 2 | 2,400 | 1,800 | 4,800 | 4,200 | 3,400 | 2,400 | 3,800 | 3,000 | 7,600 | 6,600 | 5,400 | 3,800 | 1,900 | 1,500 | 3,800 | 3,300 | 2,700 | 1,900 |
| 3 | 3,600 | 2,700 | 7,200 | 6,200 | 5,100 | 3,600 | 5,800 | 4,600 | 11,600 | 10,000 | 8,200 | 5,800 | 2,850 | 2,250 | 5,700 | 4,950 | 4,050 | 2,850 |
| 4 | 4,800 | 3,600 | 9,600 | 8,300 | 6,800 | 4,800 | 7,700 | 6,200 | 15,400 | 13,300 | 10,900 | 7,700 | 3,800 | 3,000 | 7,600 | 6,600 | 5,400 | 3,800 |
| 5 | 6,000 | 4,500 | 12,000 | 10,400 | 8,500 | 6,000 | 9,600 | 7,700 | 19,200 | 16,600 | 13,600 | 9,600 | 4,750 | 3,750 | 9,500 | 8,250 | 6,750 | 4,750 |
| 6 | 7,200 | 5,400 | 14,400 | 12,500 | 10,200 | 7,200 | 11,500 | 9,200 | 23,000 | 19,900 | 16,300 | 11,500 | 5,800 | 4,600 | 11,600 | 10,000 | 8,200 | 5,800 |

Notes: 1. All angles shown are measured from the vertical.

2. Capacities for intermediate widths not shown may be obtained by interpolation.

TABLE 22
~~Rated Capacity in Pounds, Synthetic Web Slings, 1,600 Lbs. Per Inch of Width, Single Ply~~

| Sling Body Width, Inches | Triangle—Choker Slings, Type I Triangle—Triangle Slings, Type II Eye & Eye with Flat Eye Slings, Type III Eye & Eye with Twisted Eye Slings, Type IV | | | | | | Endless Slings, Type V | | | | | | Return Eye Slings, Type VI | | | | | |
|-----------------------------------|---|------------|---------------------|-------------------|-------------------|------------------|------------------------|-------------------|---------------------|-------------------|-------------------|-------------------|----------------------------|------------|---------------------|-------------------|-------------------|------------------|
| | Vert. | Choke r | Vert. Baske t | 30 Baske t | 45 Baske t | 60 Baske t | Vert. | Choke r | Vert. Baske t | 30 Baske t | 45 Baske t | 60 Baske t | Vert. | Choke r | Vert. Baske t | 30 Baske t | 45 Baske t | 60 Baske t |
| 1 | 1,600 | 1,200 | 3,200 | 2,800 | 2,300 | 1,600 | 2,600 | 2,100 | 5,200 | 4,500 | 3,700 | 2,600 | 1,050 | 1,050 | 2,600 | 2,250 | 1,850 | 1,300 |
| 2 | 3,200 | 2,400 | 6,400 | 5,500 | 4,500 | 3,200 | 9,100 | 4,100 | 10,200 | 8,800 | 7,200 | 5,100 | 2,600 | 2,100 | 5,200 | 4,500 | 3,700 | 2,600 |
| 3 | 4,800 | 3,600 | 9,600 | 8,300 | 6,800 | 4,800 | 7,700 | 6,200 | 15,400 | 13,300 | 10,900 | 7,700 | 3,900 | 3,150 | 7,800 | 6,750 | 5,500 | 3,900 |
| 4 | 6,400 | 4,800 | 12,800 | 11,100 | 9,000 | 6,400 | 10,200 | 8,200 | 20,400 | 17,700 | 14,400 | 10,200 | 5,100 | 4,100 | 10,200 | 8,800 | 7,200 | 5,100 |
| 5 | 8,000 | 6,000 | 16,000 | 13,800 | 11,300 | 8,000 | 12,800 | 10,200 | 25,600 | 22,200 | 18,100 | 12,800 | 6,400 | 5,150 | 12,800 | 11,050 | 9,050 | 6,400 |
| 6 | 9,600 | 7,200 | 19,200 | 16,600 | 13,600 | 9,600 | 15,400 | 12,300 | 30,800 | 26,700 | 21,800 | 15,400 | 7,700 | 6,200 | 15,400 | 13,300 | 10,900 | 7,700 |

Notes: 1. All angles shown are measured from the vertical.

2. Capacities for intermediate widths not shown may be obtained by interpolation.

R 408.14952 ~~Natural and synthetic fiber rope slings; splicing.~~ **Splicing.**

Rule 4952. A spliced fiber rope sling shall not be used unless it has been spliced in accordance with the following minimum requirements and in accordance with any additional recommendations of the manufacturer:

(a) In manila rope, an eye splice shall consist of at least 3 full tucks, and short splices shall consist of at least 6 full tucks, 3 on each side of the splice center line.

(b) In synthetic fiber rope, an eye splice shall consist of at least 4 full tucks, and short splices shall consist of at least 8 full tucks, 4 on each side of the center line.

(c) A strand end tail shall not be trimmed flush with the surface of the rope immediately adjacent to the full tucks. This applies to all types of fiber rope and both eye and short splices. For fiber rope under 1 inch in diameter, the tail shall project at least 6 rope diameters beyond the last full tuck. For fiber rope 1 inch in diameter and larger, the tail shall project at least 6 inches beyond the last full tuck. Where a projecting tail interferes with the use of the sling, the tail shall be tapered and spliced into the body of the rope, using at least 2 additional tucks, which will require a tail length of approximately 6 rope diameters beyond the last full tuck.

(d) A fiber rope sling shall have a minimum clear length of rope between eye splices equal to 10 times the rope diameter.

(e) A knot shall not be used in lieu of a splice.

(f) A clamp not designed specifically for fiber ropes shall not be used for splicing.

(g) For any eye splice, the eye shall be of a size to provide an included angle of not greater than 60 degrees at the splice when the eye is placed over the load or support.

R 408.14953 ~~Natural and synthetic fiber rope slings; end~~ **End** attachments.

Rule 4953. A fiber rope sling shall not be used if an end attachment in contact with the rope has a sharp edge or projection.

R 408.14954 ~~Natural and synthetic fiber rope slings; removal~~ **Removal** from service; prohibition.

Rule 4954. (1) A natural and synthetic fiber rope sling shall be immediately removed from service if any of the following conditions are present:

(a) Abnormal wear.

(b) Powdered fiber between strands.

(c) Broken or cut fibers.

(d) Variations in the size or roundness of strands.

(e) Discoloration or rotting.

(f) Distortion of hardware in the sling.

(2) Only a fiber rope sling made from new rope shall be used. Use of a repaired or reconditioned fiber rope sling is **shall not be used.** ~~prohibited.~~

SYNTHETIC WEB SLINGS

R 408.14961 ~~Synthetic web slings; marking~~ **Marking** or coding rated capacities.

Rule 4961. Each sling shall be marked or coded to show the rated capacities for each type of

hitch and type of synthetic web material.

R 408.14962 ~~Synthetic web slings; webbing~~ **Webbing** size and edges.

Rule 4962. Synthetic webbing shall be of uniform thickness and width, and selvage edges shall not be split from the webbing's width.

R 408.14963 ~~Synthetic web slings; fittings~~ **Fittings**.

Rule 4963. (1) Fittings shall be **both of the following**:

(a) Of a minimum breaking strength equal to that of the sling.

(b) Free of all sharp edges that could in any way damage the webbing.

(2) Stitching shall be the only method used to attach end fittings to webbing and to form eyes. The thread shall be in an even pattern and contain a sufficient number of stitches to develop the full breaking strength of the sling.

R 408.14964 ~~Synthetic web slings; rated capacity; use;~~ **Use; safe operating temperatures.**
~~temperature limits.~~

Rule 4964. ~~(1) A synthetic web sling illustrated in Figure 6 shall not be used with loads in excess of the rated capacities specified in Tables 20 to 22. A sling not included in these tables shall be used only in accordance with the manufacturer's recommendations.~~

~~(1)(2)~~ When a synthetic web sling is used, the following precautions shall be taken:

(a) A nylon web sling shall not be used where fumes, vapors, sprays, mists, or liquids of acids or phenolics are present.

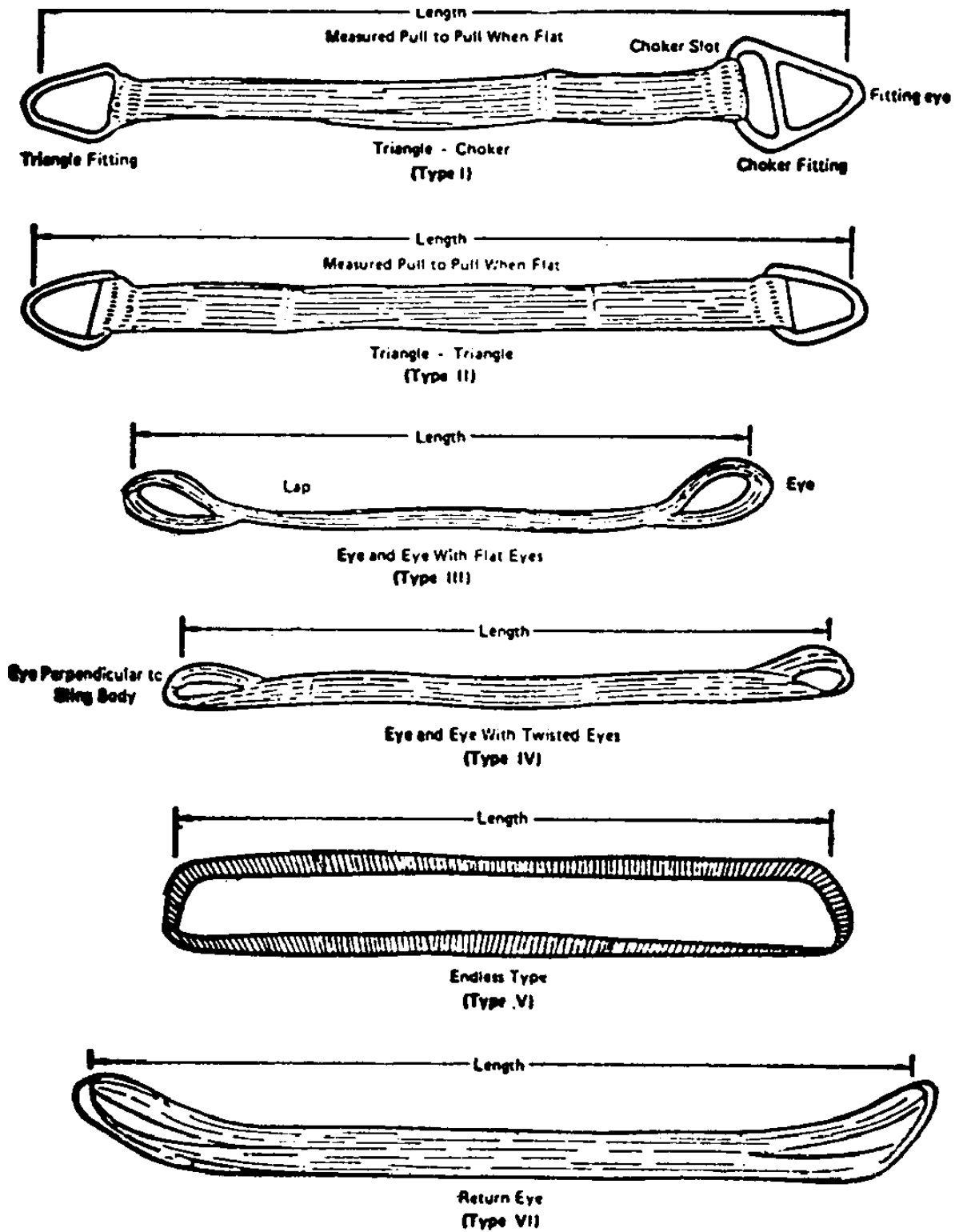
(b) A polyester and polypropylene web sling shall not be used where fumes, vapors, sprays, mists, or liquids of caustics are present.

(c) A web sling with aluminum fittings shall not be used where fumes, vapors, sprays, mists, or liquids of caustics are present.

~~(2)(3)~~ A synthetic web sling of polyester and nylon shall not be used at a temperature in excess of 180 degrees Fahrenheit. ~~A polypropylene web sling shall not be used at a temperature in excess of 200 degrees Fahrenheit.~~

(3) A polypropylene web sling shall not be used at a temperature in excess of 200 degrees Fahrenheit. (See figure 6 "Basic Synthetic Web Sling Constructions.")

FIGURE 6
BASIC SYNTHETIC WEB SLING CONSTRUCTIONS



R 408.14965 ~~Synthetic web slings; removal~~ **Removal** from service; repairs; certificate of proof test; prohibition.

Rule 4965. (1) A synthetic web sling shall be immediately removed from service if any of the following conditions are present:

- (a) Acid or caustic burns.
- (b) Melting or charring of any part of the sling surface.
- (c) Snags, punctures, tears, or cuts.
- (d) Broken or worn stitches.
- (e) Distortion of fittings.

(2) A synthetic web sling shall be repaired only by a sling manufacturer.

(3) Each repaired sling shall be proof tested by the manufacturer to twice the rated capacity prior to its return to service. The employer shall retain a certificate of the proof test and make it available for examination.

(4) A sling, including webbing and fittings, which has been repaired in a temporary manner shall not be used.

PROPOSED ADMINISTRATIVE RULES

DEPARTMENT OF **LICENSING AND REGULATORY AFFAIRS** ~~CONSUMER AND INDUSTRY~~
~~SERVICES~~

DIRECTOR'S OFFICE ~~BUREAU OF SAFETY AND REGULATION~~

OCCUPATIONAL HEALTH STANDARDS COMMISSION

Proposed Draft August 16, 2013

Filed with the secretary of state on

These rules become effective immediately upon filing with the Secretary of State unless adopted under section 33, 44, or 45a(6) of 1969 PA 306. Rules adopted under these sections become effective 7 days after filing with the Secretary of State.

(By authority conferred on the director of the department of **licensing and regulatory affairs** ~~consumer and industry services labor and economic growth~~ by sections **14 and 24** of 1974 PA 154, MCL **408.1014 and 408.1024**; and Executive Reorganization Order Nos. **1996-1, 1996-2, 2003-1, 2008-4, and 2011-4**, MCL **330.3101, 445.2001, 445.2011, 445.2025 and 445.2030**.)
~~and Executive Reorganization Order Nos. 1996-1, 1996-2, and 2003-18, MCL 408.1014, 408.1024, 330.3101, 445.2001, and 445.2011)~~

R 325.50091 and R 325.50092 of the Michigan Administrative Code are amended,
and R 325.50093 is added, as follows:

PART 312. 1,3-BUTADIENE

R 325.50091. Scope and application.

Rule 1. (1) These rules apply to all occupational exposures to 1,3-Butadiene (BD), chemical abstracts service registry no. 106-99-0, in all industries subject to **Michigan Occupational Safety and Health Act (MIOSHA), 1974 PA 154, MCL 408.1001 to 408.1094**, being ~~§408.1001 et seq. of the Michigan Compiled Laws~~, except as provided in 29 C.F.R. §1910.1051(a)(2), **“1,3-Butadiene,” as amended on February 8, 2013, as adopted in these rules.**

(2) These rules replace all references to 1,3-Butadiene contained in Tables G-1-A in **Occupational Health Standard Part 301 “Air Contaminants,” as referenced in R 325.50093**. ~~R 325.51108, and table 1 of exhibit I of occupational health rule 6201(1).~~

R 325.50092. Adoption by reference of federal regulations.

Rule 2. (1) The federal occupational safety and health administration’s regulations on 1,3-Butadiene ~~that have been~~ promulgated by the United States department of labor and codified at 29 C.F.R. §1910.1051, **“1,3-Butadiene,” as amended on February 8, 2013, are adopted in these rules.** ~~which were published in the Federal Register on November 4, 1996, and which have an effective date 90 days after the publication in the Federal Register, as amended January 8, 1998, pp. 1294 to 1295, are adopted~~

by reference in these rules as of the effective date of these rules, except as specified in subrule (2) of this rule.

(2) All of the following provisions apply as **used in** of the effective date of these rules:

(a) A reference to 29 C.F.R. §1910.133, “Eye and face protection,” in 29 C.F.R. ~~part 1910.1051(i), subpart I,~~ means **Occupational Health Standard Part 433 “Personal Protective Equipment,” and Construction Safety Standard Part 6 “Personal Protective Equipment,”** as referenced in **R 325.50093.** ~~R 325.60001 et seq., 408.13301 et seq. and R 408.40601 et seq. of the Michigan Administrative Code.~~

(b) A reference to 29 C.F.R. §1910.134, “Respiratory protection,” in 29 C.F.R. ~~part 1910.1051(h) and (k), subpart I,~~ means **Occupational Health Standard Part 451 “Respiratory Protection,”** as referenced in **R 325.50093.** ~~R 325.60051 et seq. of the Michigan Administrative Code.~~

(c) A reference to 29 C.F.R. §1910.1200 and §1926.59, “Hazard communication, in 29 C.F.R. 1910.1051 (l), means **Construction Safety Standard Part 42 “Hazard Communication,” General Industry Safety Standard Part 92 “Hazard Communication,” and Occupational Health Standard Part 430 “Hazard Communication,”** as referenced in **R 325.50093.** ~~and 1926, subpart Z, means R 325.77001 et seq., R 408.44201 et seq., and R 408.19201 et seq. of the Michigan Administrative Code.~~

(d) A reference to 29 C.F.R. §1910.20, “Employee exposure and medical records,” in 29 C.F.R. 1910. ~~subpart C,~~ means **R 325.3451 et seq. of the Michigan Administrative Code.**

(3) These federal regulations adopted in this rule have the same force and effect as a rule promulgated pursuant to the provisions of **the Michigan Occupational Safety and Health Act (MIOSHA) 1974 PA 1974 PA 154, MCL 408.1001 to 408.1094.** ~~et seq.~~

(4) ~~The adopted federal regulations are available without cost as of the time of adoption of these rules from the United States Department of Labor, OSHA, 801 South Waverly, Room 306, Lansing, Michigan 48917, or from Michigan Department of Consumer and Industry Services, Standards Division, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan 48909.~~

R 325.50093. Obtaining adopted and referenced standards.

Rule 3. (1) The OSHA regulations adopted in R 325.50091 and R 325.50092 are available from the United States Department of Labor, Occupational Safety and Health Administration, via the internet at website www.osha.gov, at no charge as of the time of adoption of these rules.

(2) The standards adopted in R 325.50091 and R 325.50092 are also available for inspection at the Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143.

(3) Copies of the standards adopted in R 325.50091 and R 325.50092 may be obtained from the publisher or may also be obtained from the Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143, plus \$20.00 for shipping and handling.

(4) The following Michigan occupational safety and health standards are referenced in R 325.50091 and R 325.50092. Up to 5 copies of these standards may be obtained at no charge from the Michigan Department of licensing and regulatory affairs, MIOSHA standards section, 7150 Harris Drive, P.O. Box 30643, Lansing, MI, 48909-8143 or via the internet at website: www.michigan.gov/mioshastandards. For quantities greater than 5, the cost, at the time of adoption of these rules, is 4 cents per page.

(a) Construction Safety Standard Part 6 “Personal Protective Equipment,” R 408.40601 to R 408.40841.

(b) Construction Safety Standard Part 42 “Hazard Communication,” R 408.44201 to R 408.44203.

(c) General Industry Safety Standard Part 92 “Hazard Communication,” R 408.19201 to R 408.19203.

(d) Occupational Health Standard Part 301 “Air Contaminants,” R 325.51101 to R 325.51108.

(e) Occupational Health Standard Part 430 “Hazard Communication,” R 325.77001 to R 325.77003.

(f) Occupational Health Standard Part 433 “Personal Protective Equipment,” R 325.60001 to R 325.60013.

(g) Occupational Health Standard Part 451 “Respiratory Protection,” R 325.60051 to R 325.60052.

PROPOSED ADMINISTRATIVE RULES

DEPARTMENT OF **LICENSING AND REGULATORY AFFAIRS** ~~CONSUMER AND INDUSTRY SERVICES~~

DIRECTOR'S OFFICE ~~BUREAU OF SAFETY AND REGULATION~~

OCCUPATIONAL HEALTH STANDARDS COMMISSION

Proposed Draft August 16, 2013

Filed with the secretary of state on

These rules become effective immediately upon filing with the Secretary of State unless adopted under section 33, 44, or 45a(6) of 1969 PA 306. Rules adopted under these sections become effective 7 days after filing with the Secretary of State.

(By authority conferred on the director of the department of **licensing and regulatory affairs** ~~consumer and industry services~~ by sections **14 and 24** of 1974 PA 154, MCL **408.1014 and 408.1024**; and Executive Reorganization Order Nos. 1996-1, ~~and~~ 1996-2, 2003-1, 2008-4, and 2011-4, MCL 330.3101, ~~and~~ 445.2001, 445.2011, 445.2025, and 445.2030)

R 325.51991 and R 325.51992 of the Michigan Administrative Code are amended, and R 325.51993 is added, as follows:

PART 603. LEAD EXPOSURE IN CONSTRUCTION

R 325.51991 Scope and application.

Rule 1. ~~(1)~~ These rules apply to all construction work as defined by **the Michigan Occupational Safety and Health Act (MIOSHA), 1974 PA 154, MCL 408.1001 to 408.1094.** ~~being §408.1001 et seq. of the Michigan Compiled Laws.~~ Construction work includes all of the following:

- (a) Demolition or salvage of structures where lead or materials containing lead are present.
 - (b) Removal or encapsulation of materials containing lead.
 - (c) New construction, alteration, repair, painting, decorating, or renovation of structures, substrates, or portions thereof that contain lead or materials containing lead.
 - (d) Installation of products containing lead.
 - (e) Lead contamination or emergency cleanup.
 - (f) Transportation, disposal, storage, or containment of lead or materials containing lead on the site or location at which construction activities are performed.
 - (g) Maintenance operations associated with the construction activities described in this **rule**.
- ~~(2) These rules supersede R 325.2416 as it applies to lead.~~

R 325.51992 Adoption by reference of federal regulations.

Rule 2. (1) The federal occupational safety and health administration's regulations on lead exposure in construction ~~that have been~~ promulgated by the United States department of labor and codified at 29 C.F.R. §1926.62, **"Lead Exposure in Construction," as amended on March 26, 2012, are adopted in**

~~these rules. which were published in the Federal Register on May 4, 1993, and which have an effective date of June 3, 1993, are adopted by reference in these rules as of the effective date of these rules. The regulations were amended on January 8, 1998, 29 C.F.R. §1926.62, volume 63, no. 5, pp. 1296 to 1297.~~

(2) ~~The adopted federal regulations specified in subrule (1) of this rule have the same force and effect as a rule promulgated pursuant to the provisions of the Michigan Occupational Safety and Health Act (MIOSHA), 1974 PA 154, MCL 408.1001 to 408.1094. under 1974 PA 154, MCL 408.1001 et seq.~~

(3) All of the following provisions apply as ~~used in of the effective date of these rules:~~

(a) A reference to 29 C.F.R. §1926.59, “Hazard communication,” ~~in 29 C.F.R. 1926.62(d) means Occupational Health Standard Part 430 “Hazard Communication, rules for hazard communication, being R 325.77001 et seq. of the Michigan Administrative Code and Construction Safety Standard Part 42 “Hazard Communication,” as referenced in R 325.51993. being R 408.44201 et seq. of the Michigan Administrative Code.~~

(b) A reference to 29 C.F.R. §1910.133, “Eye and face protection,” ~~in 29 C.F.R. 1926.62(g) means Occupational Health Standard rules for Part 433 “Personal Protective Equipment,” being R 325.60001 et seq. of the Michigan Administrative Code, General Industry Safety Standard Part 33 “Personal Protective Equipment,” being R 408.13301 et seq. of the Michigan Administrative Code, and Construction Safety Standard Part 6 “Personal Protective Equipment,” as referenced in R 325.51993. being R 408.40601 et seq. of the Michigan Administrative Code.~~

(c) A reference to 29 C.F.R. §1910.20, “Access to employee exposure and medical records,” ~~in 29 C.F.R. 1926.62(l) means Occupational Health Standard Part 470 rules for “Employee Medical Records and Trade Secrets,” as referenced in R 325.51993. being R 325.3451 et seq. of the Michigan Administrative Code.~~

~~(4) The adopted federal regulations specified in subrule (1) of this rule are available without cost as of the time of adoption of these rules from the United States Department of Labor, OSHA, 801 South Waverly, Room 306, Lansing, Michigan 48917, or from the Michigan Department of Consumer and Industry Services, Standards Division, Post Office Box 30643, Lansing, Michigan 48909.~~

R 325.51993. Obtaining adopted and referenced standards.

Rule 3. (1) The OSHA regulations adopted in R 325.51992 are available from the United States Department of Labor, Occupational Safety and Health Administration, via the internet at website www.osha.gov, at no charge as of the time of adoption of these rules.

(2) The standards adopted in R 325.51992 are also available for inspection at the Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143.

(3) Copies of the standards adopted in R 325.51992 may be obtained from the publisher or may also be obtained from the Department of Licensing and Regulatory Affairs, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143, plus \$20.00 for shipping and handling.

(4) The following Michigan occupational safety and health standards are referenced in R 325.51991 and R 325.51992. Up to 5 copies of these standards may be obtained at no charge from the Michigan Department of licensing and regulatory affairs, MIOSHA standards section, 7150 Harris Drive, P.O. Box 30643, Lansing, MI, 48909-8143 or via the internet at website: www.michigan.gov/mioshastandards. For quantities greater than 5, the cost, at the time of adoption of these rules, is 4 cents per page.

(a) Construction Safety Standard Part 6 “Personal Protective Equipment,” R 408.40601 to R 408.40841.

(b) Construction Safety Standard Part 42 “Hazard Communication,” R 408.44201 to R 408.44203.

(c) General Industry Safety Standard Part 33 “Personal Protective Equipment,” R 408.13301 to R 408.13398.

(d) Occupational Health Standard Part 430 “Hazard Communication,” R 325.77001 to R 325.77003.

(e) Occupational Health Standard Part 433 “Personal Protective Equipment,” R 325.60001 to R 325.60013.

(f) Occupational Health Standard Part 470 “Employee Medical Records and Trade Secrets,” R 325.3451 to R 325.3476.

**OPINIONS OF THE
ATTORNEY GENERAL**

MCL 14.32 states in part:

“It shall be the duty of the attorney general, when required, to give his opinion upon all questions of law submitted to him by the legislature, or by either branch thereof, or by the governor, auditor general, treasurer or any other state officer”

MCL 24.208 states in part:

“Sec. 8. (1) The Office of Regulatory Reform shall publish the Michigan register at least once each month. The Michigan register shall contain all of the following:

* * *

(j) Attorney general opinions.”

OPINIONS OF THE ATTORNEY GENERAL

STATE OF MICHIGAN

BILL SCHUETTE, ATTORNEY GENERAL

CONST 1963, ART 11, § 8: Application of constitutional provision
 prohibiting election to office of person
 convicted of felony.

ELECTIONS:

PUBLIC OFFICE:

INDIAN TRIBES:

Article 11, § 8 of the 1963 Constitution applies to a person who, within the immediately preceding 20 years, was convicted of a felony involving dishonesty, deceit, fraud, or breach of the public trust and the conviction was related to the person's official capacity while holding an elective office or position of employment in a federally recognized Indian Tribe. Under article 11, § 8, such a person is ineligible for election or appointment to any state or local elective office of this State and ineligible to hold a position in public employment in this State that is policy-making or has discretionary authority over public assets.

Opinion No. 7273

August 15, 2013

The Honorable Frank Foster
State Representative
The Capitol
Lansing, MI 48909

You have asked whether Const 1963, art 11, § 8 applies to a person convicted of a crime based on that person's conduct as a governmental employee or elected official of a federally recognized Indian Tribe.

Michigan voters added article 11, § 8 to the Michigan Constitution pursuant to Const 1963, art 12, § 1, which provides for constitutional amendments by legislative proposal and a statewide vote. Section 8 began as Senate Joint Resolution V (2010) and voters approved the amendment at the November 2, 2010 general election. It took effect on December 18, 2010.

In its entirety, Section 8 provides:

A person is ineligible for election or appointment to any state or local elective office of this state and ineligible to hold a position in public employment in this state that is policy-making or that has discretionary authority over public assets if, within the immediately preceding 20 years, the person was convicted of a felony involving dishonesty, deceit, fraud, or a breach of the public trust and the conviction was related to the person's official capacity while the person was holding any elective office or position of employment in local, state, or federal government. This requirement is in addition to any other qualification required under this constitution or by law.

The legislature shall prescribe by law for the implementation of this section.
[Const 1963, art 11, § 8.]

Your inquiry refers to a Michigan citizen who intends to run for a local government office in November 2013. According to information obtained in conjunction with your request, on July 23, 2010, the person pled guilty to Conspiracy to Defraud the United States by Dishonest Means under 18 USC 371. The person was sentenced to imprisonment and ordered to pay restitution on December 15, 2010, and was released from prison on November 30, 2011.

The actions prompting the federal indictment and guilty plea occurred while the person was serving as Chief of Police of a Tribal police department, and as an elected member of the Tribe's Board of Directors. Between 2001 and 2006, the Tribal police department received substantial grant money from the United States Department of Justice's Community Oriented Policing Services (COPS) Office, with federal shares totaling over \$1 million. In pleading guilty to the charge of Conspiracy to Defraud the United States by Dishonest Means, the person admitted to conspiring to misapply the grant funds for his own personal and political benefit.

You ask whether Section 8 disqualifies this person from running for local office. The applicability of Section 8 depends, first of all, on the threshold question of whether Section 8 is self-executing.

I. Const 1963, art 11, § 8 is self-executing.

The last sentence of Section 8 provides: “The legislature shall prescribe by law for the implementation of this section.” Const 1963, art 11, § 8. To date, the Legislature has not enacted specific legislation implementing Section 8. This raises the question of whether the effectiveness of Section 8 depends on implementing legislation.

A constitutional provision is self-executing “if it supplies a sufficient rule, by means of which the right given may be enjoyed and protected, or the duty imposed may be enforced.” *Thompson v Secretary of State*, 192 Mich 512, 520; 159 NW 65 (1916) (internal quotation marks and citation omitted). Constitutional language is not self-executing if it only provides general principles “without laying down rules by means of which those principles may be given the force of law.” *Thompson*, 192 Mich at 520 (internal quotation marks and citation omitted). See also OAG, 1975-1976, No 4964, pp 403, 405 (April 19, 1976) (analyzing whether Const 1963, art 2, § 8 is self-executing).

Section 8 does not simply set forth general principles. Rather, it provides a sufficient rule for disqualifying certain convicted felons from holding public office. See *Thompson*, 192 Mich at 520. Specifically, Section 8 describes the types of offices that are unavailable, prescribes the period of time within which convictions will be considered, and enumerates the class of felonies and the circumstances that will trigger disqualification. In other words, Section 8 provides a reasonably specific set of elements that must be satisfied for its prohibition to apply.

Furthermore, implementing legislation is generally unnecessary to give effect to a prohibition. *Musselman v Governor*, 448 Mich 503, 523; 533 NW2d 237 (1995), citing *Beecher v Baldy*, 7 Mich 488, 500 (1859). Because Section 8 expressly prohibits or disqualifies certain felons from holding an elected or appointed office in Michigan, Michigan case law supports the conclusion that the effectiveness of Section 8 is not contingent upon implementing legislation.

And while Section 8 provides that “[t]he legislature shall prescribe by law for the implementation of this section,” this text does not require implementing legislation be enacted before the section can have its intended effect. See, e.g., *Wolverine Golf Club v Secretary of State*, 384 Mich 461, 466; 185 NW2d 392 (1971) (holding that Const 1963, art 2, § 9 is self-executing irrespective of its provision that “the legislature shall implement . . . this section”); *NAACP v Dearborn*, 173 Mich App 602, 613; 434 NW2d 444 (1989) (concluding that Const 1963, art 1, § 2 is self-executing against governmental entities); OAG, 1967-1968, No 4555, pp 36, 41 (April 12, 1967) (concluding that first sentence of Const 1963, art 4, § 10 is self-executing, and the provision imposing upon Legislature the responsibility “to further implement this provision by appropriate legislation” permits prescribing penalties or other consequences for breach of the standard of conduct).

Because Section 8 supplies a sufficient rule by which it may be given effect and is also an express prohibition, it is self-executing and applies absent implementing legislation.

II. The elements of Const 1963, art 11, § 8 are satisfied.

Because the effectiveness of Section 8 does not depend on implementing legislation, Section 8 applies as long as its elements are satisfied.

A. The office sought is a state or local elective office.

Section 8 provides, in part, for ineligibility “for election or appointment to any state or local elective office of this state.” Const 1963, art 11, § 8. According to your request, the person seeks election to city council, which is a local elective office of the State of Michigan. See, e.g., MCL 117.3; MCL 168.321. Thus, Section 8 applies to the office sought in this instance.

B. The conviction is a felony involving dishonesty, deceit, or fraud, and is within the immediately preceding 20 years.

To be ineligible for elective office under Section 8, one must have been “convicted of a felony involving dishonesty, deceit, fraud, or a breach of the public trust,” and the conviction must have occurred “within the immediately preceding 20 years.” Const 1963, art 11, § 8.¹ As noted above, the person pled guilty to Conspiracy to Defraud the United States by Dishonest Means under 18 USC 371, for misusing federal grant money. Under federal law, violation of 18 USC 371 is a Class D felony. See 18 USC 371; 18 USC 3559(a)(4). Indisputably, the offense at issue involved dishonesty, deceit, fraud, or a breach of the public trust. Finally, judgment was imposed against the individual on December 15, 2010, well within the twenty-year time frame contained in Section 8. Thus, Section 8 applies to the felony conviction at issue here.

C. The conviction relates to the person’s official capacity.

The next requirement set forth in Section 8 provides that the conviction must be “related to the person’s official capacity.” Const 1963, art 11, § 8. At the time of the offense, the person was employed as the Tribe’s Chief of Police, and was an elected member of the Tribe’s Board of Directors. This person took advantage of those positions to misuse grant funds awarded to the Tribe through the COPS Tribal Resources Grant Program. The conviction clearly related to the person’s official capacities as Chief of Police and member of the Board of Directors.²

¹ Although the crime at issue was committed before the effective date of Section 8, application of Section 8 to these facts would not violate the constitutional prohibitions of ex post facto laws in US Const, art I, §10 and Const 1963, art 1, § 10. Legislation that prescribes qualifications for a profession or office and uses past conduct as “appropriate evidence of such qualifications” does not implicate ex post facto prohibitions, because the intent of such legislation is not to impose additional penalties for past crimes. *Hawker v New York*, 170 US 189, 200; 18 S Ct 573; 42 L Ed 1002 (1898); see also *Taylor v Secretary of State*, 216 Mich App 333, 340-342; 548 NW2d 710 (1996).

² In addition to the materials received with this request, this conclusion is also based on this office’s review of the federal court filings, which are public records.

D. The positions constitute an elective or employment position within local government.

The only remaining question is whether these positions within the Tribe constitute an “elective office or position of employment in local, state, or federal government.”

When determining the meaning of words in the Michigan Constitution, settled principles of law in interpreting such provisions apply. “[T]he primary objective of constitutional interpretation, not dissimilar to any other exercise in judicial interpretation, is to faithfully give meaning to the intent of those who enacted the law.” *Nat’l Pride At Work, Inc v Governor*, 481 Mich 56, 67; 748 NW2d 524 (2008). The courts “typically discern[] the common understanding of constitutional text by applying each term’s plain meaning at the time of ratification.” *Nat’l Pride At Work*, 481 Mich at 67-68, citing *Wayne County v Hathcock*, 471 Mich 445, 468-469; 684 NW2d 765 (2004). The meaning given any term must be that which “reasonable minds, the great mass of the people themselves, would give it.” *People v Nash*, 418 Mich 196, 209; 341 NW2d 439 (1983) (internal quotation marks and citation omitted). Where a constitutional term is undefined, dictionary definitions may be consulted to determine its meaning. *Nat’l Pride At Work*, 481 Mich at 69-76.

Under these guiding principles, the undefined terms “local, state, or federal government” in Section 8 must be given reasonable, common-sense constructions. The term “government” may reasonably be understood to mean the “[e]xercise of authority in a political unit,” or the “agency or apparatus through which one that governs exercises authority and performs its functions.” *The American Heritage College Dictionary* (2000). Here, the “government” for the Tribe is its Board of Directors and related agencies or departments, like the Tribal Police Department. See *Royal v Police and Fire Comm of Ecorse*, 345 Mich 214, 219; 75 NW2d 841 (1956) (“control of a . . . police department is a function of local . . . government”) (internal quotation marks and citation omitted).

These officials and employees hold positions of public trust, and exercise governmental authority and functions for the Tribe.

Because Indian Tribes are not considered states, but are domestic dependent nations subordinate to the United States, *Cotton Petroleum Corp v New Mexico*, 490 US 163, 191-192; 109 S Ct 1698; 104 L Ed 2d 209 (1989); *Oklahoma Tax Comm v Citizen Band Potawatomi Indian Tribe of Oklahoma*, 498 US 505, 509; 111 S Ct 905; 112 L Ed 2d 1112 (1991), it is appropriate to address Section 8’s use of the term “local government.”¹ The word “local” may be defined as “[o]f, relating to, or characteristic of a particular place,” or “[o]f or relating to a city, town, or district rather than a larger area.” *The American Heritage College Dictionary* (2000).

Applying these definitions here, the Tribal government functions as a “local” government because its inherent authority to govern extends only to Tribal land and Tribe members. *Oklahoma Tax Comm*, 498 US at 509.² In other words, the Tribe’s authority is limited to a particular place or part of a larger area. Indeed, according to the United States Department of the Interior, the Indian Reorganization Act, 25 USC 476 *et seq.*, “afford[s] statutory recognition of [Tribal] powers of *local self-government*.” See *Cotton Petroleum Corp*, 490 US at 202 (Blackmun, J, dissenting) (emphasis added). Further, as this office has recognized, federal agencies and federal courts sometimes equate Tribal government with local government, even when applicable federal law does not require it. See OAG, 2003-2004, No 7134, pp 44, 46 (May 21, 2003) (“[T]he Code of Federal Regulations makes clear that the

¹ “[M]embers of the various Indian tribes are citizens of the United States and citizens of the state within which they reside.” *Michigan United Conservation Clubs v Anthony*, 90 Mich App 99, 109; 280 NW2d 883 (1979) (citations omitted). And “[a]bsent express federal law to the contrary, [Tribe members] going beyond reservation boundaries have generally been held subject to non-discriminatory state law otherwise applicable to all citizens of the State.” *Mescalero Apache Tribes v Jones*, 411 US 145, 148-149; 93 S Ct 1267; 36 L Ed 2d 114 (1973) (citations omitted).

² Tribes have authority over their members and a governance structure. See, e.g., Constitution and Bylaws of the Sault St. Marie Tribe of Chippewa Indians <www.saulttribe.com/images/government/Constitution_amended_2010.pdf> (accessed August 1, 2013).

administration and maintenance of Indian reservation roads and bridges is basically a function of the local government, which, as regards Route 5, is the Northern Cheyenne Tribe.’”), quoting *McDonald v Means*, 309 F3d 530, 539 (CA 9, 2002) (internal quotation marks and citation omitted). Thus, it may reasonably be concluded that the phrase “local . . . government” for purposes of Section 8 includes a recognized Tribal government. *Nash*, 418 Mich at 209.

This conclusion is consistent with the plain language of Section 8, which applies to prior convictions relating to “*any* elective office or position of employment in local, state, or federal government.” Const 1963, art 11, § 8 (emphasis added). The use of the word “any” indicates that the drafters and the people who adopted Section 8 understood that it would have broad application. Moreover, this provision is not limited to felonies that arise from offices or positions “in this state” in contrast to the first clause of Section 8 – “A person is ineligible for election or appointment to any state or local elective office *of this state*.” (Emphasis added).

Moreover, this result is consistent with the purpose of Section 8, which is to maintain the public trust in Michigan’s elected and appointed officials. Section 8 effectuates this purpose by seeking to ensure that only trustworthy persons will hold public office in Michigan, and it uses criminal history as evidence pertaining to trustworthiness. To help discern the common understanding of constitutional language, it is appropriate to consider “the circumstances leading to the adoption of the provision and the purpose sought to be accomplished.” *Nash*, 418 Mich at 209. This principle supports an inclusive construction of “local, state, or federal government.” Section 8 began as Senate Joint Resolution V of 2010 and was supported by arguments such as the following:

State and local government should be more responsive to the needs of residents, and governmental officials need to garner more trust and credibility with the electorate. To accomplish this, those with a track record of committing felonies involving deceit *while in public office or government employment* should be prohibited from holding positions of public trust. Recent events in the City of Detroit, where the former mayor, a

former city council member, and former members of the city’s administration have been convicted of felonies committed while in office, shine a bright light on the need for stronger restrictions on the election or appointment of felons. [Senate Fiscal Analysis, SJR V, August 20, 2010, p 1; emphasis added.]¹

Like the text of Section 8, the history that led to its adoption demonstrates a desire to maintain the public trust in Michigan’s elected officers. There is nothing in Section 8 to suggest that previous convictions related to service in Tribal government are less relevant to protection of the public trust than convictions related to service in traditional municipal, state, or federal governments. The circumstances surrounding the adoption of Section 8 support a conclusion that Section 8 applies to convictions related to Tribal government.

Simply put, the purpose of Section 8 is to maintain the public trust in Michigan’s elected officers by seeking to ensure that only trustworthy persons will hold public office in Michigan. A criminal history in the context of Tribal government is equally likely to indicate untrustworthiness as a criminal history in the context of municipal, state, or federal government.²

In summary, Section 8 is self-executing and is effective without implementing legislation. Further, in light of the text and purpose of Section 8 and the circumstances leading to its adoption, a position or office within a Tribal government constitutes an “elective office or position of employment in local . . . government” as contemplated in Section 8. Where, as here, the other elements of Section 8 are satisfied, Section 8 bars a person from election or appointment to any state or local elective office of the State of Michigan if that person has a prior felony conviction that related to the person’s official

¹ Also among the circumstances leading to the adoption of Section 8 was a concern about how the misuse of public funds would affect the public trust. See House Legislative Analysis, SJR V, June 17, 2010, p 1. Here, the person admitted to conspiring to misapply public funds. That crime is exactly the type of behavior that people would reasonably expect to trigger the protections of Section 8.

² This conclusion paralleling a Tribal government to a “local government” is limited to the specific language and purpose of Section 8 pertaining to certain prior felony convictions, and does not apply outside the context addressed in this opinion.

capacity while the person was holding any elective office or position of employment in a Tribal government.

It is my opinion, therefore, that article 11, § 8 of the 1963 Constitution applies to a person who, within the immediately preceding 20 years, was convicted of a felony involving dishonesty, deceit, fraud, or breach of the public trust and the conviction was related to the person's official capacity while holding an elective office or position of employment in a federally recognized Indian Tribe. Under article 11, § 8, such a person is ineligible for election or appointment to any state or local elective office of this State and ineligible to hold a position in public employment in this State that is policy-making or has discretionary authority over public assets.

A handwritten signature in black ink, reading "Bill Schuette". The signature is written in a cursive, flowing style with a long horizontal line extending from the end of the name.

BILL SCHUETTE
Attorney General

MICHIGAN ADMINISTRATIVE CODE TABLE
(2013 SESSION)

MCL 24.208 states in part:

“Sec. 8. (1) The Office of Regulatory Reform shall publish the Michigan register at least once each month. The Michigan register shall contain all of the following:

* * *

(i) Other official information considered necessary or appropriate by the Office of Regulatory Reform.”

The following table cites administrative rules promulgated during the year 2000, and indicates the effect of these rules on the Michigan Administrative Code (1979 ed.).

MICHIGAN ADMINISTRATIVE CODE TABLE
(2013 RULE FILINGS)

| R Number | Action | 2013 MR Issue | R Number | Action | 2013 MR Issue | R Number | Action | 2013 MR Issue |
|----------|--------|---------------------|----------|--------|---------------------|----------|--------|---------------------|
| 29.2901 | A | 5 | 123.1 | * | 10 | 123.66 | R | 10 |
| 29.2902 | A | 5 | 123.4 | * | 10 | 123.67 | R | 10 |
| 29.2903 | A | 5 | 123.21 | * | 10 | 123.68 | R | 10 |
| 29.2904 | A | 5 | 123.22 | * | 10 | 123.69 | R | 10 |
| 29.2905 | A | 5 | 123.23 | * | 10 | 123.71 | R | 10 |
| 29.2906 | A | 5 | 123.24 | * | 10 | 123.72 | R | 10 |
| 29.2907 | A | 5 | 123.43 | * | 10 | 123.73 | R | 10 |
| 29.2908 | A | 5 | 123.44 | * | 10 | 123.74 | R | 10 |
| 29.2909 | A | 5 | 123.51 | * | 10 | 123.75 | R | 10 |
| 29.2910 | A | 5 | 123.52 | * | 10 | 205.5 | R | 8 |
| 29.2911 | A | 5 | 123.53 | * | 10 | 205.9 | R | 8 |
| 29.2912 | A | 5 | 123.54 | * | 10 | 205.23 | R | 8 |
| 29.2913 | A | 5 | 123.55 | * | 10 | 205.1 | * | 8 |
| 29.2914 | A | 5 | 123.61 | * | 10 | 205.8 | * | 8 |
| 29.2915 | A | 5 | 123.62 | * | 10 | 205.15 | * | 8 |
| 29.2916 | A | 5 | 123.63 | * | 10 | 205.16 | * | 8 |
| 29.2917 | A | 5 | 123.64 | * | 10 | 205.20 | * | 8 |
| 29.2918 | A | 5 | 123.65 | * | 10 | 205.22 | * | 8 |
| 29.2919 | A | 5 | 123.20 | A | 10 | 205.26 | * | 8 |
| 29.2920 | A | 5 | 123.30 | A | 10 | 205.28 | * | 8 |
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| 29.2922 | A | 5 | 123.32 | A | 10 | 205.1101 | R | 6 |
| 29.2923 | A | 5 | 123.33 | A | 10 | 205.1111 | R | 6 |
| 29.2924 | A | 5 | 123.34 | A | 10 | 205.1115 | R | 6 |
| 29.2925 | A | 5 | 123.35 | A | 10 | 205.1120 | R | 6 |
| 29.2926 | A | 5 | 123.36 | A | 10 | 205.1125 | R | 6 |
| 54.201 | * | 12 | 123.37 | A | 10 | 205.1130 | R | 6 |
| 54.202 | * | 12 | 123.38 | A | 10 | 205.1135 | R | 6 |
| 54.203 | * | 12 | 123.40 | A | 10 | 205.1140 | R | 6 |
| 54.204 | * | 12 | 123.56 | A | 10 | 205.1145 | R | 6 |
| 54.205 | * | 12 | 123.6 | R | 10 | 205.1150 | R | 6 |
| 54.206 | * | 12 | 123.25 | R | 10 | 205.1155 | R | 6 |
| 54.207 | * | 12 | 123.26 | R | 10 | 205.1201 | R | 6 |
| 54.208 | * | 12 | 123.27 | R | 10 | 205.1202 | R | 6 |
| 54.209 | * | 12 | 123.41 | R | 10 | 205.1205 | R | 6 |
| 54.210 | * | 12 | 123.42 | R | 10 | 205.1208 | R | 6 |
| 54.211 | A | 12 | 123.45 | R | 10 | 205.1210 | R | 6 |
| 54.212 | A | 12 | 123.46 | R | 10 | 205.1215 | R | 6 |
| 54.213 | A | 12 | 123.47 | R | 10 | 205.1220 | R | 6 |

(* Amendment to Rule, **A** Added Rule, **N** New Rule, **R** Rescinded Rule)

| R Number | Action | 2013 MR Issue | R Number | Action | 2013 MR Issue | R Number | Action | 2013 MR Issue |
|----------|--------|---------------|-----------|--------|---------------|-----------|--------|---------------|
| 205.1222 | R | 6 | 205.1345 | R | 6 | 299.5403 | R | 2 |
| 205.1225 | R | 6 | 205.1348 | R | 6 | 299.5405 | R | 2 |
| 205.1228 | R | 6 | 209.1 | * | 5 | 299.5407 | R | 2 |
| 205.1230 | R | 6 | 209.31 | * | 5 | 299.5409 | R | 2 |
| 205.1235 | R | 6 | 257.1604 | A | 11 | 299.5411 | R | 2 |
| 205.1240 | R | 6 | 257.16910 | * | 11 | 299.5413 | R | 2 |
| 205.1245 | R | 6 | 281.663.1 | R | 11 | 299.5415 | R | 2 |
| 205.1247 | R | 6 | 281.1201 | * | 11 | 299.5530 | R | 2 |
| 205.1249 | R | 6 | 281.1204 | * | 11 | 299.5532 | R | 2 |
| 205.1250 | R | 6 | 281.1206 | * | 11 | 299.5534 | R | 2 |
| 205.1252 | R | 6 | 281.1208 | * | 11 | 299.5536 | R | 2 |
| 205.1255 | R | 6 | 285.138.1 | R | 5 | 299.5538 | R | 2 |
| 205.1257 | R | 6 | 285.502.1 | R | 10 | 299.5540 | R | 2 |
| 205.1260 | R | 6 | 299.3301 | R | 2 | 299.5732 | R | 2 |
| 205.1264 | R | 6 | 299.3302 | R | 2 | 299.5742 | R | 2 |
| 205.1270 | R | 6 | 299.3303 | R | 2 | 299.5901 | R | 2 |
| 205.1275 | R | 6 | 299.3304 | R | 2 | 299.5903 | R | 2 |
| 205.1278 | R | 6 | 299.3305 | R | 2 | 299.5905 | R | 2 |
| 205.1280 | R | 6 | 299.3306 | R | 2 | 299.5907 | R | 2 |
| 205.1281 | R | 6 | 299.3307 | R | 2 | 299.5909 | R | 2 |
| 205.1283 | R | 6 | 299.3308 | R | 2 | 299.5911 | R | 2 |
| 205.1285 | R | 6 | 299.3309 | R | 2 | 299.5913 | R | 2 |
| 205.1288 | R | 6 | 299.3310 | R | 2 | 299.5915 | R | 2 |
| 205.1290 | R | 6 | 299.3311 | R | 2 | 299.5917 | R | 2 |
| 205.1301 | R | 6 | 299.3312 | R | 2 | 299.5919 | R | 2 |
| 205.1303 | R | 6 | 299.3313 | R | 2 | 324.1501 | R | 2 |
| 205.1305 | R | 6 | 299.3314 | R | 2 | 324.1502 | R | 2 |
| 205.1307 | R | 6 | 299.3315 | R | 2 | 324.1503 | R | 2 |
| 205.1312 | R | 6 | 299.3316 | R | 2 | 324.1504 | R | 2 |
| 205.1313 | R | 6 | 299.3317 | R | 2 | 324.1505 | R | 2 |
| 205.1315 | R | 6 | 299.3318 | R | 2 | 324.1506 | R | 2 |
| 205.1317 | R | 6 | 299.3319 | R | 2 | 324.1507 | R | 2 |
| 205.1320 | R | 6 | 299.5105 | R | 2 | 324.1508 | R | 2 |
| 205.1330 | R | 6 | 299.5107 | R | 2 | 324.1509 | R | 2 |
| 205.1332 | R | 6 | 299.5109 | R | 2 | 324.1509a | R | 2 |
| 205.1333 | R | 6 | 299.5111 | R | 2 | 324.1510 | R | 2 |
| 205.1335 | R | 6 | 299.5113 | R | 2 | 324.1511 | R | 2 |
| 205.1340 | R | 6 | 299.5117 | R | 2 | 325.5601 | * | 8 |
| 205.1342 | R | 6 | 299.5401 | R | 2 | 325.5602 | * | 8 |

(* Amendment to Rule, **A** Added Rule, **N** New Rule, **R** Rescinded Rule)

| R Number | Action | 2013 MR Issue | R Number | Action | 2013 MR Issue | R Number | Action | 2013 MR Issue |
|-----------|--------|---------------|----------|--------|---------------|-----------|--------|---------------|
| 325.5603 | * | 8 | 325.5690 | A | 8 | 325.5663 | R | 8 |
| 325.5605 | * | 8 | 325.5691 | A | 8 | 325.5664 | R | 8 |
| 325.5607 | * | 8 | 325.5692 | A | 8 | 325.5665 | R | 8 |
| 325.5608 | * | 8 | 325.5693 | A | 8 | 325.47801 | R | 11 |
| 325.5610 | * | 8 | 325.5694 | A | 8 | 325.50301 | * | 7 |
| 325.5611 | * | 8 | 325.5695 | A | 8 | 325.50303 | * | 7 |
| 325.5612 | * | 8 | 325.5696 | A | 8 | 325.50304 | * | 7 |
| 325.5613 | * | 8 | 325.5697 | A | 8 | 325.50302 | R | 7 |
| 325.5637 | * | 8 | 325.5698 | A | 8 | 325.50305 | R | 7 |
| 325.5655 | * | 8 | 325.5617 | R | 8 | 325.50306 | R | 7 |
| 325.5656 | * | 8 | 325.5618 | R | 8 | 325.50307 | R | 7 |
| 325.5601a | A | 8 | 325.5619 | R | 8 | 325.50308 | R | 7 |
| 325.5626 | A | 8 | 325.5621 | R | 8 | 325.50309 | R | 7 |
| 325.5627 | A | 8 | 325.5622 | R | 8 | 325.50310 | R | 7 |
| 325.5628 | A | 8 | 325.5623 | R | 8 | 325.50311 | R | 7 |
| 325.5629 | A | 8 | 325.5624 | R | 8 | 325.50312 | R | 7 |
| 325.5630 | A | 8 | 325.5625 | R | 8 | 325.50313 | R | 7 |
| 325.5634 | A | 8 | 325.5631 | R | 8 | 325.50314 | R | 7 |
| 325.5635 | A | 8 | 325.5632 | R | 8 | 325.50315 | R | 7 |
| 325.5357 | A | 8 | 325.5633 | R | 8 | 325.50316 | R | 7 |
| 325.5658 | A | 8 | 325.5638 | R | 8 | 325.50317 | R | 7 |
| 325.5667 | A | 8 | 325.5639 | R | 8 | 325.50318 | R | 7 |
| 325.5668 | A | 8 | 325.5640 | R | 8 | 325.50319 | R | 7 |
| 325.5674 | A | 8 | 325.5641 | R | 8 | 325.50320 | R | 7 |
| 325.5675 | A | 8 | 325.5642 | R | 8 | 325.50321 | R | 7 |
| 325.5676 | A | 8 | 325.5643 | R | 8 | 325.50322 | R | 7 |
| 325.5677 | A | 8 | 325.5644 | R | 8 | 325.50323 | R | 7 |
| 325.5678 | A | 8 | 325.5645 | R | 8 | 325.50324 | R | 7 |
| 325.5679 | A | 8 | 325.5646 | R | 8 | 325.50325 | R | 7 |
| 325.5680 | A | 8 | 325.5647 | R | 8 | 325.50326 | R | 7 |
| 325.5681 | A | 8 | 325.5648 | R | 8 | 325.50327 | R | 7 |
| 325.5682 | A | 8 | 325.5649 | R | 8 | 325.50328 | R | 7 |
| 325.5683 | A | 8 | 325.5650 | R | 8 | 325.50329 | R | 7 |
| 325.5684 | A | 8 | 325.5651 | R | 8 | 325.50330 | R | 7 |
| 325.5685 | A | 8 | 325.5652 | R | 8 | 325.50331 | R | 7 |
| 325.5686 | A | 8 | 325.5659 | R | 8 | 325.50332 | R | 7 |
| 325.5687 | A | 8 | 325.5660 | R | 8 | 325.50333 | R | 7 |
| 325.5688 | A | 8 | 325.5661 | R | 8 | 325.50334 | R | 7 |
| 325.5689 | A | 8 | 325.5662 | R | 8 | 325.50335 | R | 7 |

(* Amendment to Rule, **A** Added Rule, **N** New Rule, **R** Rescinded Rule)

| R Number | Action | 2013 MR Issue | R Number | Action | 2013 MR Issue | R Number | Action | 2013 MR Issue |
|------------|--------|---------------|------------|--------|---------------|----------|--------|---------------|
| 325.50336 | R | 7 | 325.51880 | * | 10 | 338.3242 | R | 5 |
| 325.50337 | R | 7 | 325.51881 | * | 10 | 338.3243 | R | 5 |
| 325.50338 | R | 7 | 325.51883 | * | 10 | 338.3251 | R | 5 |
| 325.50339 | R | 7 | 325.51851a | A | 10 | 338.3252 | R | 5 |
| 325.50340 | R | 7 | 325.51878a | A | 10 | 338.3253 | R | 5 |
| 325.50341 | R | 7 | 325.51885 | R | 10 | 338.3254 | R | 5 |
| 325.50342 | R | 7 | 325.51886 | R | 10 | 338.3255 | A | 5 |
| 325.50343 | R | 7 | 325.60151 | * | 6 | 338.3256 | A | 5 |
| 325.50344 | R | 7 | 325.60154 | * | 6 | 338.3257 | R | 5 |
| 325.50345 | R | 7 | 325.60155 | * | 6 | 338.3258 | R | 5 |
| 325.50346 | R | 7 | 325.60156 | * | 6 | 338.3259 | R | 5 |
| 325.50347 | R | 7 | 325.60157 | * | 6 | 338.3261 | R | 5 |
| 325.50348 | R | 7 | 325.60158 | * | 6 | 338.3262 | R | 5 |
| 325.51101 | * | 6 | 325.60159 | * | 6 | 338.3263 | R | 5 |
| 325.51105 | * | 6 | 325.60160 | * | 6 | 338.3264 | R | 5 |
| 325.51108 | * | 6 | 325.60161 | * | 6 | 338.3265 | R | 5 |
| 325.51101a | A | 6 | 325.60151a | A | 6 | 338.3266 | R | 5 |
| 325.51190 | * | 7 | 336.1310 | * | 6 | 338.3267 | R | 5 |
| 325.51143 | R | 7 | 336.1330 | R | 6 | 338.3268 | R | 5 |
| 325.51301 | * | 11 | 338.7 | * | 6 | 338.3269 | R | 5 |
| 325.51302 | * | 11 | 338.108 | R | 6 | 338.3270 | R | 5 |
| 325.51311 | * | 11 | 338.3201 | R | 5 | 338.3281 | R | 5 |
| 325.51312 | * | 11 | 338.3202 | R | 5 | 338.3282 | R | 5 |
| 325.51851 | * | 10 | 338.3204 | R | 5 | 338.3283 | R | 5 |
| 325.51852 | * | 10 | 338.3206 | R | 5 | 338.3284 | R | 5 |
| 325.51854 | * | 10 | 338.3208 | R | 5 | 338.3291 | R | 5 |
| 325.51856 | * | 10 | 338.3218 | R | 5 | 338.3292 | R | 5 |
| 325.51859 | * | 10 | 338.3219 | R | 5 | 338.3295 | R | 5 |
| 325.51860 | * | 10 | 338.3220 | R | 5 | 338.3301 | R | 5 |
| 325.51862 | * | 10 | 338.3221 | R | 5 | 338.3302 | R | 5 |
| 325.51863 | * | 10 | 338.3231 | R | 5 | 338.3303 | R | 5 |
| 325.51865 | * | 10 | 338.3232 | R | 5 | 338.3304 | R | 5 |
| 325.51866 | * | 10 | 338.3233 | R | 5 | 338.3307 | R | 5 |
| 325.51867 | * | 10 | 338.3234 | R | 5 | 338.3311 | R | 5 |
| 325.51868 | * | 10 | 338.3235 | R | 5 | 338.3312 | R | 5 |
| 325.51869 | * | 10 | 338.3236 | R | 5 | 338.3313 | R | 5 |
| 325.51873 | * | 10 | 338.3238 | R | 5 | 338.3314 | R | 5 |
| 325.51874 | * | 10 | 338.3239 | R | 5 | 338.3317 | R | 5 |
| 325.51879 | * | 10 | 338.3241 | R | 5 | 338.3321 | R | 5 |

(* Amendment to Rule, **A** Added Rule, **N** New Rule, **R** Rescinded Rule)

| R Number | Action | 2013 MR Issue | R Number | Action | 2013 MR Issue | R Number | Action | 2013 MR Issue |
|-----------|--------|---------------|-----------|--------|---------------|-----------|--------|---------------|
| 338.3324 | R | 5 | 338.5117 | A | 12 | 400.5102a | R | 13 |
| 338.3327 | R | 5 | 338.5139 | A | 12 | 400.5103 | R | 13 |
| 338.3331 | R | 5 | 338.5103 | R | 12 | 400.5103a | R | 13 |
| 338.3332 | R | 5 | 338.5105 | R | 12 | 400.5104 | R | 13 |
| 338.3335 | R | 5 | 338.5114 | R | 12 | 400.5104a | R | 13 |
| 338.3341 | R | 5 | 338.5120 | R | 12 | 400.5104b | R | 13 |
| 338.3345 | R | 5 | 338.5145 | R | 12 | 400.5105 | R | 13 |
| 338.3451 | R | 5 | 338.5260 | R | 12 | 400.5106 | R | 13 |
| 338.3455 | R | 5 | 338.5270 | R | 12 | 400.5107 | R | 13 |
| 338.3456 | R | 5 | 338.5446 | R | 12 | 400.5108 | R | 13 |
| 338.3461 | R | 5 | 338.5480 | R | 12 | 400.5109 | R | 13 |
| 338.3463 | R | 5 | 338.23030 | R | 6 | 400.5109a | R | 13 |
| 338.3464 | R | 5 | 339.22501 | R | 5 | 400.5110 | R | 13 |
| 338.3465 | R | 5 | 339.22503 | R | 5 | 400.5111 | R | 13 |
| 338.3466 | R | 5 | 339.22505 | R | 5 | 400.5111a | R | 13 |
| 338.5101 | * | 12 | 339.22507 | R | 5 | 400.5111b | R | 13 |
| 338.5102 | * | 12 | 339.22509 | R | 5 | 400.5113a | R | 13 |
| 338.5104 | * | 12 | 339.22511 | R | 5 | 400.5113b | R | 13 |
| 338.5110 | * | 12 | 339.22513 | R | 5 | 400.5113c | R | 13 |
| 338.5110a | * | 12 | 339.22515 | R | 5 | 400.5114 | R | 13 |
| 338.5111 | * | 12 | 339.22517 | R | 5 | 400.5115 | R | 13 |
| 338.5112 | * | 12 | 339.22519 | R | 5 | 400.5116 | R | 13 |
| 338.5115 | * | 12 | 339.22521 | R | 5 | 400.5117 | R | 13 |
| 338.5140 | * | 12 | 339.22523 | R | 5 | 400.5118 | R | 13 |
| 338.5210 | * | 12 | 339.22525 | R | 5 | 400.5201a | R | 13 |
| 338.5217 | * | 12 | 339.22527 | R | 5 | 400.5201b | R | 13 |
| 338.5218 | * | 12 | 339.22529 | R | 5 | 400.5202a | R | 13 |
| 338.5230 | * | 12 | 339.23101 | * | 5 | 400.5204 | R | 13 |
| 338.5240 | * | 12 | 339.23102 | * | 5 | 400.5204a | R | 13 |
| 338.5255 | * | 12 | 340.1121 | * | 6 | 400.5205 | R | 13 |
| 338.5401 | * | 12 | 340.1122 | * | 6 | 400.5205a | R | 13 |
| 338.5405 | * | 12 | 340.1123 | R | 6 | 400.5205b | R | 13 |
| 338.5435 | * | 12 | 340.1124 | R | 6 | 400.5206 | R | 13 |
| 338.5460 | * | 12 | 390.67100 | R | 9 | 400.5209 | R | 13 |
| 338.5465 | * | 12 | 400.400 | R | 6 | 400.5301 | R | 13 |
| 338.5475 | * | 12 | 400.410 | R | 6 | 400.5302 | R | 13 |
| 338.5501 | * | 12 | 400.411 | R | 6 | 400.5303 | R | 13 |
| 338.5503 | * | 12 | 400.5101 | R | 13 | 400.5303a | R | 13 |
| 338.5116 | A | 12 | 400.5102 | R | 13 | 400.5305 | R | 13 |

(* Amendment to Rule, **A** Added Rule, **N** New Rule, **R** Rescinded Rule)

| R Number | Action | 2013 MR Issue | R Number | Action | 2013 MR Issue | R Number | Action | 2013 MR Issue |
|-----------|--------|---------------|-----------|--------|---------------|----------|--------|---------------|
| 400.5306 | R | 13 | 400.5902d | R | 13 | 400.8188 | A | 13 |
| 400.5307 | R | 13 | 400.5903 | R | 13 | 400.8191 | A | 13 |
| 400.5501 | R | 13 | 400.5905 | R | 13 | 400.8301 | A | 13 |
| 400.5502 | R | 13 | 400.5910 | R | 13 | 400.8305 | A | 13 |
| 400.5502a | R | 13 | 400.5915 | R | 13 | 400.8310 | A | 13 |
| 400.5502b | R | 13 | 400.5920 | R | 13 | 400.8315 | A | 13 |
| 400.5502c | R | 13 | 400.5925 | R | 13 | 400.8320 | A | 13 |
| 400.5601 | R | 13 | 400.5930 | R | 13 | 400.8325 | A | 13 |
| 400.5602 | R | 13 | 400.5935 | R | 13 | 400.8330 | A | 13 |
| 400.5603 | R | 13 | 400.5940 | R | 13 | 400.8335 | A | 13 |
| 400.5604 | R | 13 | 400.8101 | A | 13 | 400.8340 | A | 13 |
| 400.5604 | R | 13 | 400.8104 | A | 13 | 400.8345 | A | 13 |
| 400.5605 | R | 13 | 400.8107 | A | 13 | 400.8350 | A | 13 |
| 400.5606 | R | 13 | 400.8110 | A | 13 | 400.8355 | A | 13 |
| 400.5607 | R | 13 | 400.8113 | A | 13 | 400.8360 | A | 13 |
| 400.5610 | R | 13 | 400.8116 | A | 13 | 400.8365 | A | 13 |
| 400.5611 | R | 13 | 400.8119 | A | 13 | 400.8370 | A | 13 |
| 400.5613 | R | 13 | 400.8122 | A | 13 | 400.8375 | A | 13 |
| 400.5615 | R | 13 | 400.8125 | A | 13 | 400.8380 | A | 13 |
| 400.5801 | R | 13 | 400.8128 | A | 13 | 400.8385 | A | 13 |
| 400.5805 | R | 13 | 400.8131 | A | 13 | 400.8501 | A | 13 |
| 400.5810 | R | 13 | 400.8134 | A | 13 | 400.8505 | A | 13 |
| 400.5815 | R | 13 | 400.8137 | A | 13 | 400.8510 | A | 13 |
| 400.5820 | R | 13 | 400.8140 | A | 13 | 400.8515 | A | 13 |
| 400.5825 | R | 13 | 400.8143 | A | 13 | 400.8520 | A | 13 |
| 400.5835 | R | 13 | 400.8146 | A | 13 | 400.8525 | A | 13 |
| 400.5840 | R | 13 | 400.8149 | A | 13 | 400.8530 | A | 13 |
| 400.5841 | R | 13 | 400.8152 | A | 13 | 400.8535 | A | 13 |
| 400.5845 | R | 13 | 400.8155 | A | 13 | 400.8540 | A | 13 |
| 400.5850 | R | 13 | 400.8158 | A | 13 | 400.8545 | A | 13 |
| 400.5856 | R | 13 | 400.8161 | A | 13 | 400.8550 | A | 13 |
| 400.5865 | R | 13 | 400.8164 | A | 13 | 400.8555 | A | 13 |
| 400.5870 | R | 13 | 400.8167 | A | 13 | 400.8560 | A | 13 |
| 400.5900a | R | 13 | 400.8170 | A | 13 | 400.8565 | A | 13 |
| 400.5901 | R | 13 | 400.8173 | A | 13 | 400.8701 | A | 13 |
| 400.5902 | R | 13 | 400.8176 | A | 13 | 400.8710 | A | 13 |
| 400.5902a | R | 13 | 400.8179 | A | 13 | 400.8720 | A | 13 |
| 400.5902b | R | 13 | 400.8182 | A | 13 | 400.8730 | A | 13 |
| 400.5902c | R | 13 | 400.8185 | A | 13 | 400.8740 | A | 13 |

(* Amendment to Rule, **A** Added Rule, **N** New Rule, **R** Rescinded Rule)

| R Number | Action | 2013 MR Issue | R Number | Action | 2013 MR Issue | R Number | Action | 2013 MR Issue |
|-----------|--------|---------------|-----------|--------|---------------|-----------|--------|---------------|
| 400.8750 | A | 13 | 408.11243 | * | 11 | 408.14231 | R | 6 |
| 400.8760 | A | 13 | 408.11262 | * | 11 | 408.14451 | * | 8 |
| 400.8770 | A | 13 | 408.11275 | * | 11 | 408.14476 | * | 8 |
| 400.8801 | A | 13 | 408.11293 | * | 11 | 408.14507 | * | 10 |
| 400.8810 | A | 13 | 408.11294 | * | 11 | 408.14521 | * | 10 |
| 400.8820 | A | 13 | 408.11202 | A | 11 | 408.14555 | * | 10 |
| 400.8830 | A | 13 | 408.11432 | * | 6 | 408.14535 | R | 10 |
| 400.8840 | A | 13 | 408.11431 | R | 6 | 408.15712 | * | 8 |
| 408.43b | * | 9 | 408.11434 | R | 6 | 408.15713 | * | 8 |
| 408.43i | * | 9 | 408.11724 | * | 6 | 408.15717 | * | 8 |
| 408.48 | * | 5 | 408.11725 | * | 6 | 408.15721 | * | 8 |
| 408.59 | * | 5 | 408.11807 | * | 10 | 408.15723 | * | 8 |
| 408.10413 | R | 1 | 408.11844 | * | 10 | 408.15725 | * | 8 |
| 408.10421 | * | 1 | 408.11851 | * | 10 | 408.15726 | * | 8 |
| 408.10509 | * | 1 | 408.11859 | * | 10 | 408.15739 | * | 8 |
| 408.10541 | * | 1 | 408.12111 | * | 10 | 408.15802 | * | 8 |
| 408.10570 | * | 1 | 408.12151 | * | 10 | 408.15810 | * | 8 |
| 408.10579 | * | 1 | 408.12155 | * | 10 | 408.15815 | * | 8 |
| 408.10580 | * | 1 | 408.12163 | * | 10 | 408.15821 | * | 8 |
| 408.10582 | * | 1 | 408.12216 | * | 7 | 408.15831 | * | 8 |
| 408.10590 | * | 1 | 408.12217 | * | 7 | 408.15833 | * | 8 |
| 408.10761 | R | 1 | 408.12218 | * | 7 | 408.16211 | * | 10 |
| 408.10763 | R | 1 | 408.12220 | * | 7 | 408.16222 | * | 10 |
| 408.10765 | * | 1 | 408.12242 | * | 7 | 408.16227 | * | 10 |
| 408.10801 | * | 1 | 408.12202 | A | 7 | 408.16236 | * | 10 |
| 408.10807 | * | 1 | 408.12231 | R | 7 | 408.16217 | R | 10 |
| 408.10823 | * | 1 | 408.13811 | * | 7 | 408.16511 | * | 6 |
| 408.10914 | * | 1 | 408.13812 | * | 7 | 408.16528 | * | 6 |
| 408.10925 | * | 1 | 408.13822 | * | 7 | 408.17125 | R | 6 |
| 408.10999 | * | 1 | 408.13847 | * | 7 | 408.17211 | * | 10 |
| 408.11119 | R | 10 | 408.13865 | * | 7 | 408.17212 | * | 10 |
| 408.11121 | R | 10 | 408.13871 | * | 7 | 408.17213 | * | 10 |
| 408.11203 | * | 11 | 408.13881 | * | 7 | 408.17222 | * | 10 |
| 408.11211 | * | 11 | 408.13802 | A | 7 | 408.17225 | * | 10 |
| 408.11213 | * | 11 | 408.14246 | * | 6 | 408.17236 | * | 10 |
| 408.11221 | * | 11 | 408.14263 | * | 6 | 408.17251 | * | 10 |
| 408.11222 | * | 11 | 408.14267 | * | 6 | 408.17227 | R | 10 |
| 408.11224 | * | 11 | 408.14269 | * | 6 | 408.17303 | * | 8 |
| 408.11241 | * | 11 | 408.14273 | * | 6 | 408.17310 | * | 8 |

(* Amendment to Rule, **A** Added Rule, **N** New Rule, **R** Rescinded Rule)

| R Number | Action | 2013 MR Issue | R Number | Action | 2013 MR Issue | R Number | Action | 2013 MR Issue |
|-----------|--------|---------------|------------|--------|---------------|------------|--------|---------------|
| 408.17315 | * | 8 | 408.30043 | * | 6 | 408.30946 | * | 10 |
| 408.17318 | * | 8 | 408.30046 | * | 6 | 408.30947 | * | 10 |
| 408.17320 | * | 8 | 408.30049 | * | 6 | 408.30948 | * | 10 |
| 408.17403 | * | 8 | 408.30052 | * | 6 | 408.30995a | * | 10 |
| 408.17404 | * | 8 | 408.30055 | * | 6 | 408.30947a | A | 10 |
| 408.17405 | * | 8 | 408.30801 | * | 10 | 408.30948a | A | 10 |
| 408.17411 | * | 8 | 408.30806 | * | 10 | 408.30996 | A | 10 |
| 408.17412 | * | 8 | 408.30808 | * | 10 | 408.40102 | * | 6 |
| 408.17415 | * | 8 | 408.30810 | * | 10 | 408.40114 | * | 6 |
| 408.17421 | * | 8 | 408.30811 | * | 10 | 408.40116 | * | 6 |
| 408.17422 | * | 8 | 408.30812 | * | 10 | 408.40119 | * | 6 |
| 408.17423 | * | 8 | 408.30815 | * | 10 | 408.40121 | * | 6 |
| 408.17424 | * | 8 | 408.30817 | * | 10 | 408.40122 | * | 6 |
| 408.17426 | * | 8 | 408.30818 | * | 10 | 408.40127 | * | 6 |
| 408.17431 | * | 8 | 408.30819 | * | 10 | 408.40128 | * | 6 |
| 408.17432 | * | 8 | 408.30822 | * | 10 | 408.40130 | * | 6 |
| 408.17433 | * | 8 | 408.30823 | * | 10 | 408.40131 | * | 6 |
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(* Amendment to Rule, **A** Added Rule, **N** New Rule, **R** Rescinded Rule)

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| 408.40742 | R | 6 | 408.41224 | * | 7 | 408.41610 | * | 1 |
| 408.40810 | * | 7 | 408.41225 | * | 7 | 408.41627 | * | 1 |
| 408.40818 | * | 7 | 408.41226 | * | 7 | 408.41633 | * | 1 |
| 408.40819 | * | 7 | 408.41227 | * | 7 | 408.41658 | * | 1 |
| 408.40820 | * | 7 | 408.41231 | * | 7 | 408.41719 | * | 1 |
| 408.40821 | * | 7 | 408.41232 | * | 7 | 408.41725 | * | 1 |
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| 408.41140 | * | 7 | 408.41465 | * | 8 | 408.41980 | * | 7 |
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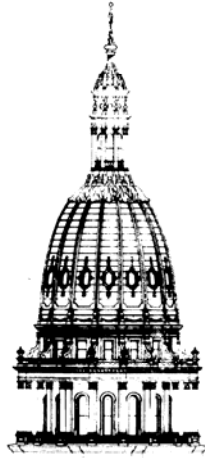
(* Amendment to Rule, **A** Added Rule, **N** New Rule, **R** Rescinded Rule)

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| 491.115 | R | 3 | 792.10203 | A | 6 | 792.10283 | A | 6 |
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| 491.125 | R | 3 | 792.10207 | A | 6 | 792.10287 | A | 6 |
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**ADMINISTRATIVE RULES
ENROLLED SENATE AND HOUSE BILLS
SIGNED INTO LAW OR VETOED
(2012 SESSION)**

Mich. Const. Art. IV, §33 provides: “Every bill passed by the legislature shall be presented to the governor before it becomes law, and the governor shall have 14 days measured in hours and minutes from the time of presentation in which to consider it. If he approves, he shall within that time sign and file it with the secretary of state and it shall become law . . . If he does not approve, and the legislature has within that time finally adjourned the session at which the bill was passed, it shall not become law. If he disapproves . . . he shall return it within such 14-day period with his objections, to the house in which it originated.”

Mich. Const. Art. IV, §27, further provides: “No act shall take effect until the expiration of 90 days from the end of the session at which it was passed, but the legislature may give immediate effect to acts by a two-thirds vote of the members elected to and serving in each house.”

MCL 24.208 states in part:

“Sec. 8. (1) The Office of Regulatory Reform shall publish the Michigan register at least once each month. The Michigan register shall contain all of the following:

* * *

(b) On a cumulative basis, the numbers and subject matter of the enrolled senate and house bills signed into law by the governor during the calendar year and the corresponding public act numbers.

(c) On a cumulative basis, the numbers and subject matter of the enrolled senate and house bills vetoed by the governor during the calendar year.”

2013 Michigan Public Acts Table

Legislative Service Bureau
Legal Division, Statutory Compiling and Law Publications Unit
124 W. Allegan, Lansing, MI 48909

July 23, 2013
Through PA 106 of 2013

| PA No. | ENROLLED | | I.E.* Yes/No | Governor Approved | Filed Date | Effective Date | SUBJECT |
|-----------|----------|------|-----------------|----------------------|---------------|----------------|---|
| | HB | SB | | | | | |
| 1 | 4153 | | Yes | 3/12 | 3/12 | 3/12/13 | Sales tax ; collections; retroactive effective date for regulations on prepaid sales tax on gasoline; provide for. (Rep. M. Shirkey) |
| 2 | | 044 | Yes | 3/12 | 3/12 | 6/1/13 | Criminal procedure ; sex offender registration; placement on the public registry; remove certain exceptions. (Sen. R. Jones) |
| 3 | | 060 | Yes | 3/12 | 3/12 | 3/12/13 | Weapons ; licensing; definition of federally licensed firearms dealer; modify. (Sen. M. Green) |
| 4 | | 061 | Yes | 3/18 | 3/18 | 3/18/13 # | Insurance ; health care corporations; merger of health care corporation with a nonprofit mutual disability insurer; allow, and provide procedures, prescribe requirements on rating and certain contract provisions, and establish requirements for a health endowment fund corporation. (Sen. J. Hune) |
| 5 | | 062 | Yes | 3/18 | 3/18 | 3/18/13 # | Insurance ; health; regulations applicable to nonprofit mutual disability insurer; revise to accommodate merger with nonprofit health care corporation and prescribe requirements on rating and certain contract provisions. (Sen. V. Smith) |
| 6 | | 0234 | Yes | 3/20 | 3/20 | 3/20/13 # | Vehicles ; fund-raising registration plates; fund-raising plate for ducks unlimited; provide for. (Sen. R. Richardville) |
| 7 | 4337 | | Yes | 3/20 | 3/20 | 3/20/13 # | Vehicles ; fund-raising registration plates; distribution of proceeds from sales of ducks unlimited fund-raising plates; provide for. (Rep. D. Zorn) |
| 8 | | 048 | Yes | 3/26 | 3/26 | 3/26/13 | Animals ; other; exemption from large carnivore act for certain businesses; expand to exempt businesses that allow patrons to come into contact with bears less than 36 weeks of age or bears that weigh 90 pounds or less and make other general revisions. (Sen. T. Casperson) |

* - I.E. means Legislature voted to give the Act immediate effect.

** - Act takes effect on the 91st day after sine die adjournment of the Legislature.

*** - See Act for applicable effective date.

+ - Line item veto.

++ - Pocket veto.

- Tie bar.

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|--------|----------|------|-----------------|----------------------|---------------|----------------|--|
| | HB | SB | | | | | |
| 9 | | 0233 | Yes | 3/27 | 3/27 | 3/27/13 | Appropriations; supplemental ; various state departments and agencies; provide appropriations. (<i>Sen. D. Booher</i>) |
| 10 | | 0252 | Yes | 3/27 | 3/27 | 3/27/13 | Watercraft; marinas ; marina dredging loan origination program; establish. (<i>Sen. J. Brandenburg</i>) |
| 11 | 4398 | | Yes | 3/27 | 3/27 | 3/27/13 | Watercraft; marinas ; dredging material from Great Lakes bottomlands determined to be largely sand; revise permit fee. (<i>Rep. A. Price</i>) |
| 12 | 4399 | | Yes | 3/27 | 3/27 | 3/27/13 | Natural resources; Great Lakes ; expedited conditional permit process; allow for emergencies. (<i>Rep. A. Pscholka</i>) |
| 13 | 4400 | | Yes | 3/27 | 3/27 | 3/27/13 | Watercraft; marinas ; dredging material from inland lakes and streams determined to be largely sand; revise fee. (<i>Rep. P. Pettalia</i>) |
| 14 | | 019 | Yes | 4/16 | 4/16 | 4/16/13 | Financial institutions; mortgage brokers and lenders ; appointments to the mortgage industry advisory board; modify. (<i>Sen. D. Booher</i>) |
| 15 | | 065 | Yes | 4/16 | 4/16 | 4/16/13 | Individual income tax; collections ; withholding requirement for certain members of a flow-through entity; clarify. (<i>Sen. J. Brandenburg</i>) |
| 16 | 4052 | | Yes | 4/23 | 4/23 | 4/23/13 # | Trade; vehicles ; motor vehicle sales finance act; expand to include certain nonmotorized recreational vehicles. (<i>Rep. K. Kurtz</i>) |
| 17 | 4053 | | Yes | 4/23 | 4/23 | 4/23/13 # | Trade; vehicles ; application of retail installment sales act; exclude certain nonmotorized recreational vehicles. (<i>Rep. K. Kurtz</i>) |
| 18 | 4045 | | Yes | 4/23 | 4/23 | 4/23/13 | Occupations; electricians ; eligible apprenticeship training programs; revise requirements for fire alarm specialty technicians. (<i>Rep. H. Crawford</i>) |

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| | HB | SB | | | | | |
| 19 | 4123 | | Yes | 4/23 | 4/23 | 7/1/13 | Torts; liability; personal injury or property damage caused by propane gas equipment or appliances; provide protection from liability. (Rep. R. Victory) |
| 20 | | 0108 | Yes | 5/7 | 5/7 | 5/7/13 | Highways; name; portion of I-94 in Kalamazoo county; designate as the "Officer Eric Zapata Memorial Highway". (Sen. T. Schuitmaker) |
| 21 | | 0288 | Yes | 5/8 | 5/8 | 5/8/13 | Natural resources; hunting; natural resources commission ability to designate species as game; provide for. (Sen. T. Casperson) |
| 22 | | 0289 | Yes | 5/8 | 5/8 | 5/8/13 | Natural resources; hunting; right to hunt and fish; provide for. (Sen. T. Casperson) |
| 23 | 4093 | | Yes | 5/9 | 5/9 | 5/9/13 # | Crimes; intoxication or impairment; alcohol content for individuals operating a vehicle under the influence of alcoholic liquor; maintain at 0.08 without reversion to 0.10. (Rep. A. LaFontaine) |
| 24 | 4131 | | Yes | 5/9 | 5/9 | 5/9/13 # | Criminal procedure; sentencing guidelines; alcohol content for individuals operating a motor vehicle under the influence of alcoholic liquor in the code of criminal procedure; maintain at 0.08 without reversion to 0.10. (Rep. K. Kesto) |
| 25 | | 0218 | Yes | 5/9 | 5/10 | 8/9/13 | Economic development; tax increment financing; sunset on water resource improvement tax increment finance authority; remove, and allow dredging. (Sen. G. Hansen) |
| 26 | | 0123 | Yes | 5/9 | 5/10 | 5/10/13 | State financing and management; funds; funding for purchase of land and development of certain convention facilities; provide for. (Sen. D. Hildenbrand) |
| 27 | 4037 | | No | 5/14 | 5/14 | 5/1/14 | Traffic control; driver license; designation of veteran status on driver license; provide for, and allow secretary of state to report certain veteran information to certain other departments and agencies. (Rep. N. Jenkins) |
| 28 | | 0219 | No | 5/14 | 5/14 | 5/1/14 | State; identification cards; veteran designation on state identification cards; allow. (Sen. D. Booher) |

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| 29 | 4471 | | Yes | 5/16 | 5/16 | 5/16/13 | Education; calendar ; exception to minimum days of pupil instruction requirement for inclement weather days; allow for 2012-2013 if minimum hours requirement is met. (Rep. P. Potvin) |
| 30 | | 0178 | No | 5/14 | 5/16 | ** | Insurance; health ; standard prior authorization methodology for prescription drugs; create a workgroup to establish and require insurers and prescribers to use after a specific date. (Sen. T. Schuitmaker) |
| 31 | | 0179 | No | 5/14 | 5/16 | ** # | Insurance; health care corporations ; standard prior authorization methodology for prescription drugs; create a workgroup to establish and require corporations and prescribers to use after a specific date. (Sen. T. Schuitmaker) |
| 32 | 4054 | | Yes | 5/14 | 5/16 | 5/16/13 | Family law; other ; definition of eligible domestic relations order; modify. (Rep. K. Heise) |
| 33 | | 043 | Yes | 5/20 | 5/20 | 5/20/13 | Courts; judges ; certain district court judgeships; increase, and reduce number of circuit court judgeships. (Sen. R. Jones) |
| 34 | 4264 | | Yes | 5/21 | 5/21 | 5/21/13 | Criminal procedure; sentencing ; consecutive sentencing for financial exploitation of vulnerable adult; allow under certain circumstances. (Rep. T. Leonard) |
| 35 | | 097 | Yes | 5/21 | 5/21 | 8/20/13 | Traffic control; civil infraction procedures ; waiver of fine for violating certain infant seat requirements; allow. (Sen. J. Proos) |
| 36 | 4254 | | Yes | 5/21 | 5/21 | 5/21/13 | Vehicles; registration ; electric carriage; exempt from definition of motor vehicle and define "use a hand-held mobile telephone". (Rep. J. Walsh) |
| 37 | | 016 | Yes | 5/28 | 5/28 | 5/28/13 | Natural resources; wildlife ; wildlife violator compact law; modify enforcement provisions. (Sen. H. Walker) |
| 38 | 4050 | | Yes | 6/4 | 6/4 | 6/4/13 | Children; protection ; children's ombudsman to investigate victims of child abuse or neglect; expand criteria to include children who have died as a result of child abuse or neglect. (Rep. K. Kurtz) |

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| 39 | 4177 | | Yes | 6/4 | 6/4 | 6/4/13 | Crimes; homicide ; reference to vulnerable adult abuse in first degree murder statute; revise. (Rep. J. Ananich) |
| 40 | 4705 | | Yes | 6/4 | 6/4 | 6/4/13 | Property tax; state education tax ; reimbursement of certain levied millage revenues; allow. (Rep. E. McBroom) |
| 41 | 4042 | | Yes | 6/5 | 6/5 | 6/5/13 | Human services; food assistance ; criteria for the issuance of Michigan bridge cards; modify. (Rep. T. Kelly) |
| 42 | | 051 | Yes | 6/6 | 6/6 | 6/6/13 | Property tax; classification ; qualified forest property tax program; modify. (Sen. D. Booher) |
| 43 | | 054 | Yes | 6/5 | 6/6 | 6/6/13 | Property tax; classification ; allocation of qualified forest property recapture tax; modify. (Sen. T. Casperson) |
| 44 | | 055 | Yes | 6/5 | 6/6 | 6/6/13 | Property tax; exemptions ; definition of qualified agricultural property; revise. (Sen. M. Green) |
| 45 | | 056 | Yes | 6/5 | 6/6 | 6/6/13 | Natural resources; forests ; private forest management; provide oversight from the department of agriculture and rural development and provide for conservation district assistance to owners of forestland. (Sen. D. Booher) |
| 46 | | 057 | Yes | 6/5 | 6/6 | 6/6/13 | Agriculture; other ; Michigan agriculture environmental assurance program; expand to include lands not utilized for traditional or production agriculture such as forest management. (Sen. A. Meekhof) |
| 47 | | 058 | Yes | 6/5 | 6/6 | 6/6/13 | Natural resources; forests ; promotion of forestry and the development of the forest products industry in the state; provide for. (Sen. J. Moolenaar) |
| 48 | 4069 | | Yes | 6/5 | 6/6 | 6/6/13 | Natural resources; forests ; classification of forestland as commercial forest; clarify requirements for inclusion and withdrawal of forestland. (Rep. F. Foster) |

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| | HB | SB | | | | | |
| 49 | 4243 | | Yes | 6/5 | 6/6 | 6/6/13 | Property tax; other; qualified forest property recapture tax; revise. (Rep. E. McBroom) |
| 50 | 4244 | | Yes | 6/5 | 6/6 | 6/6/13 | Property tax; classification; qualified forest property; revise exemption. (Rep. B. Rendon) |
| 51 | 4171 | | Yes | 6/11 | 6/11 | 6/11/13 # | Elections; canvassing; elimination of local boards of canvassers and amendment of process to balance precinct results; provide for, and clarify allocation of costs to conduct village elections. (Rep. B. Jacobsen) |
| 52 | 4169 | | Yes | 6/11 | 6/11 | 6/11/13 # | Elections; canvassing; reference in general law village act to board of village canvassers and board of township canvassers; revise to board of county canvassers. (Rep. D. Pagel) |
| 53 | 4170 | | Yes | 6/11 | 6/11 | 6/11/13 # | Elections; canvassing; reference in community college act of 1966 to board of city or township canvassers; eliminate. (Rep. K. Cotter) |
| 54 | 4127 | | Yes | 6/11 | 6/11 | 6/11/13 | Criminal procedure; probation; GPS bail monitoring of certain offenders; allow. (Rep. J. Johnson) |
| 55 | 4360 | | Yes | 6/11 | 6/11 | 9/10/13 | Liquor; licenses; penalties for certain unauthorized transactions for food assistance or family independence program benefits; provide for. (Rep. G. Haines) |
| 56 | 4361 | | Yes | 6/11 | 6/11 | 9/10/13 | Gaming; lottery; lottery sales agent; provide for penalties for fraudulent activity related to food assistance benefits. (Rep. R. Victory) |
| 57 | | 0165 | Yes | 6/11 | 6/11 | 9/10/13 | Health facilities; hospitals; policy regarding life-sustaining or nonbeneficial treatment; require policy be disclosed in writing upon request and provide to parent or guardian if it applies to a minor or ward. (Sen. J. Marleau) |
| 58 | | 0335 | Yes | 6/11 | 6/11 | 6/11/13 | Insurance; health; health insurance claims assessment; extend the sunset. (Sen. R. Kahn) |

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| 59 | 4328 | | Yes | 6/13 | 6/13 | 6/13/13 + | Appropriations; other; omnibus budget bill for fiscal year 2013-2014; provide for. (Rep. J. Haveman) |
| 60 | 4228 | | Yes | 6/13 | 6/13 | 6/13/13 | Appropriations; school aid; fiscal year 2013-2014 omnibus appropriations for school aid, higher education, and community colleges; provide for. (Rep. B. Rogers) |
| 61 | 4458 | | Yes | 6/16 | 6/18 | 6/18/13 | Economic development; tax increment financing; capture of increased tax revenue levied under certain tax millages; prohibit. (Rep. E. Kowall) |
| 62 | 4461 | | Yes | 6/16 | 6/18 | 6/18/13 | Economic development; local development financing authority; capture of increased tax revenue levied under certain millages; prohibit. (Rep. H. Haugh) |
| 63 | 4463 | | Yes | 6/16 | 6/18 | 6/18/13 | Economic development; other; capture of increased tax revenue levied under certain millages; prohibit. (Rep. J. Walsh) |
| 64 | 4464 | | Yes | 6/16 | 6/18 | 6/18/13 | Economic development; other; capture of increased tax revenue levied under certain millages; prohibit. (Rep. G. Haines) |
| 65 | 4743 | | Yes | 6/19 | 6/19 | 6/19/13 | Fireworks; use; local control of consumer fireworks use; expand, and amend certain licensing requirements. (Rep. H. Haugh) |
| 66 | 4459 | | Yes | 6/19 | 6/19 | 6/19/13 | Economic development; downtown development authorities; capture of increased tax revenue levied for certain millages; prohibit. (Rep. J. Townsend) |
| 67 | 4460 | | Yes | 6/19 | 6/19 | 6/19/13 | Economic development; brownfield redevelopment authority; capture of increased tax revenue levied under certain millages; prohibit. (Rep. P. Cavanagh) |
| 68 | 4462 | | Yes | 6/19 | 6/19 | 6/19/13 | Economic development; corridor improvement; capture of increased tax revenue levied under certain millages; prohibit. (Rep. J. Farrington) |

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| 69 | 4591 | | Yes | 6/25 | 6/25 | 6/25/13 | Occupations; alarm systems; installation of certain home monitoring systems without electrician's permit; authorize for registered or licensed security alarm providers. (Rep. A. Nesbitt) |
| 70 | 4737 | | Yes | 6/25 | 6/25 | 6/25/13 | Construction; permits; installation, maintenance, replacement, or servicing of a home monitoring system; exempt from construction code permit requirements. (Rep. A. Nesbitt) |
| 71 | 4592 | | Yes | 6/25 | 6/25 | 6/25/13 | Occupations; mechanical contractors; installation of certain home thermostats under Forbes mechanical contractors act; authorize for security alarm system providers. (Rep. B. Jacobsen) |
| 72 | 4665 | | Yes | 6/25 | 6/25 | 6/25/13 | Environmental protection; solid waste; solid waste surcharge program; extend sunset. (Rep. E. Kowall) |
| 73 | 4666 | | Yes | 6/25 | 6/25 | 10/1/13 | Environmental protection; hazardous waste; sunset for certain user charges; extend, and consolidate funds. (Rep. E. Kowall) |
| 74 | 4708 | | Yes | 6/25 | 6/25 | 10/1/13 | Environmental protection; hazardous waste; hazardous materials transportation permit fund; replace with environmental pollution prevention fund. (Rep. E. Kowall) |
| 75 | 4669 | | Yes | 6/25 | 6/25 | 6/25/13 | Vehicles; off-road; license fee for off-road vehicles; revise. (Rep. J. Bumstead) |
| 76 | | 0256 | Yes | 6/25 | 6/25 | 6/25/13 | Economic development; other; Michigan supply chain management development commission revisions; provide for. (Sen. M. Kowall) |
| 77 | 4303 | | Yes | 6/27 | 6/27 | 9/26/13 | Occupations; mortuary science; courtesy licenses for licensees from certain other states; authorize for certain purposes. (Rep. K. Kurtz) |
| 78 | 4329 | | Yes | 6/27 | 6/27 | 9/26/13 # | Occupations; licensing fees; fees for courtesy mortuary science licenses; establish. (Rep. K. Kurtz) |

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| 79 | 4330 | | Yes | 6/27 | 6/27 | 9/26/13 # | Occupations; mortuary science; authorization of death record by funeral director who holds a courtesy license; allow. (Rep. K. Kurtz) |
| 80 | 4574 | | Yes | 6/27 | 6/27 | 9/26/13 | Occupations; mortuary science; assignment or assumption of prepaid funeral contracts by purchaser of a licensed funeral establishment; require. (Rep. K. Kurtz) |
| 81 | 4297 | | No | 6/27 | 6/28 | 5/1/14 # | Recreation; state parks; waiver of recreation passport fees; allow for holders of multiyear vehicle registrations except when registration fee is paid. (Rep. F. Foster) |
| 82 | 4439 | | No | 6/27 | 6/28 | 5/1/14 # | Vehicles; registration; recreational passport fee; eliminate from registration forms for certain military specialty plates. (Rep. F. Foster) |
| 83 | 4080 | | Yes | 6/27 | 6/28 | 6/28/13 | Property; conveyances; surplus department of corrections property in Kinross township and Camp Manistique in Schoolcraft county; provide for conveyance. (Rep. F. Foster) |
| 84 | 4307 | | Yes | 6/27 | 6/28 | 6/28/13 | Elections; special elections; requirement for a special election when a vacancy occurs in the office of county commissioner during an odd numbered year; eliminate unless the vacancy is not filled by appointment. (Rep. L. Lyons) |
| 85 | 4540 | | Yes | 6/27 | 6/28 | 6/28/13 | Economic development; plant rehabilitation; taxation of certain industrial facilities exemption certificates; clarify. (Rep. J. Stamas) |
| 86 | 4663 | | Yes | 6/27 | 6/28 | 6/28/13 | Water; conservation; agricultural land uses; modify water withdrawal dispute resolution process and allowable expenditures from the agricultural preservation fund. (Rep. K. Daley) |
| 87 | | 0264 | Yes | 6/27 | 6/28 | 6/28/13 | Natural resources; other; issuance of permits for dredging; modify procedure. (Sen. T. Casperson) |
| 88 | 4082 | | Yes | 6/28 | 6/28 | 6/28/13 # | Individual income tax; other; Michigan Alzheimer's association fund act; create. (Rep. M. Lori) |

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| | HB | SB | | | | | |
| 89 | 4084 | | Yes | 6/28 | 6/28 | 6/28/13 | Individual income tax; other; ALS of Michigan ("Lou Gehrig's disease") fund act; create. (Rep. J. Farrington) |
| 90 | | 0150 | Yes | 6/28 | 6/28 | 6/28/13 # | Individual income tax; checkoff; contribution to Michigan Alzheimer's association fund; provide for check-off option. (Sen. J. Pappageorge) |
| 91 | | 0341 | Yes | 6/28 | 6/28 | 6/28/13 # | Individual income tax; other; Michigan Amber alert fund; create. (Sen. D. Hildenbrand) |
| 92 | | 0342 | Yes | 6/28 | 6/28 | 6/28/13 | Individual income tax; checkoff; contributions to Michigan Amber alert fund; provide check-off option. (Sen. D. Hildenbrand) |
| 93 | 4529 | | Yes | 7/1 | 7/1 | 7/1/13 | Criminal procedure; defenses; statewide standards and accountability measures of trial-level indigent criminal defense services; implement, and create the Michigan indigent defense commission act. (Rep. T. McMillin) |
| 94 | | 0301 | Yes | 7/1 | 7/1 | 7/1/13 # | Criminal procedure; other; appointment of counsel to indigent person charged with felony; modify. (Sen. B. Caswell) |
| 95 | | 0284 | Yes | 7/1 | 7/1 | 7/1/13 | Public utilities; other; creation and funding of the low-income energy assistance fund; provide for. (Sen. M. Nofs) |
| 96 | 4813 | | Yes | 7/2 | 7/2 | 7/2/13 # | Education; reorganization; criteria and procedures for dissolution of a school district; revise. (Rep. B. Rogers) |
| 97 | 4815 | | Yes | 7/2 | 7/2 | 10/1/13 # | School aid; other; implementation of district dissolution; provide for in school aid act, and adjust appropriations for districts affected by dissolution. (Rep. B. Rogers) |
| 98 | | 0163 | Yes | 7/2 | 7/2 | 7/2/13 | Natural resources; wetlands; permit exemptions for wetlands and inland lakes and streams; revise, modify certain permit fees, provide for certain general permits, and require more information from department justifying denial of any part 13 permits. (Sen. M. Green) |

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| 99 | | 0175 | Yes | 7/2 | 7/2 | 7/2/13 | Military affairs ; generally, Michigan military act; modify. (Sen. J. Pappageorge) |
| 100 | | 079 | Yes | 7/2 | 7/2 | 8/31/13 | Liquor ; licenses; farmer's market permit to sell and taste wine at farmer's market; provide for. (Sen. G. Hansen) |
| 101 | | 027 | Yes | 7/2 | 7/2 | 7/2/13 # | Liquor ; licenses; ability to refill growlers of beer and to sample and sell wine at farmer's market; provide for certain licensees. (Sen. D. Hildenbrand) |
| 102 | 4112 | | Yes | 7/3 | 7/3 | 7/3/13 | Appropriations ; zero budget; supplemental appropriations; provide for fiscal years 2012-2013 and 2013-2014. (Rep. J. Haveman) |
| 103 | | 0380 | Yes | 7/3 | 7/3 | 7/3/13 # | Civil procedure ; foreclosure; mortgage modification program; revise. (Sen. R. Richardville) |
| 104 | | 0383 | Yes | 7/3 | 7/3 | 1/10/14 # | Civil procedure ; foreclosure; redemption period; terminate redemption rights if property is damaged. (Sen. D. Booher) |
| 105 | 4765 | | Yes | 7/3 | 7/3 | 7/3/13 # | Civil procedure ; foreclosure; mortgage modification program; extend sunset and phase out. (Rep. J. Farrington) |
| 106 | 4766 | | Yes | 7/3 | 7/3 | 7/3/13 # | Civil procedure ; foreclosure; mortgage modification; require certain mortgage servicing agents to personally meet with mortgagors. (Rep. M. Callton) |
| Veto | 4085 | | Yes | No | 6/28 | 6/28/13 | Individual income tax ; checkoff; funding for ALS of Michigan ("Lou Gehrig's disease") fund; create. (Rep. T. Cochran) |

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